

**APPENDIX A**

COUNTY OF SAN DIEGO NOISE STANDARDS

## **Policy 4b**

Because exterior community noise equivalent levels (CNEL) above 60 decibels and/or interior CNEL above 45 decibels may have an adverse effect on public health and welfare, it is the policy of the County of San Diego that:

1. Whenever it appears that new development may result in any (existing or future) noise sensitive land use being subject to noise levels of CNEL equal to 60 decibels (A) or greater, an acoustical analysis shall be required.
2. If the acoustical analysis shows that noise levels at any noise sensitive land use will exceed CNEL equal to 60 decibels, modifications shall be made to the development which reduce the exterior noise level to less than CNEL of 60 decibels (A) and the interior noise level to less than CNEL of 45 decibels (A).
3. If modifications are not made to the development in accordance with paragraph 2 above, the development shall not be approved unless a finding is made that there are specifically identified overriding social or economic considerations which warrant approval of the development without such modification; provided, however, if the acoustical study shows that sound levels for any noise sensitive land use will exceed a CNEL equal to 75 decibels (A) even with such modifications, the development shall not be approved irrespective of such social or economic considerations.

## **Definitions, Notes & Exceptions**

"Decibels (A)" refers to A-weighted sound levels as noted on page VIII-2 of this Element.

"Development" means any physical development including but not limited to residences, commercial, or industrial facilities, roads, civic buildings, hospitals, schools, airports, or similar facilities.

"Exterior noise":

- (a) For single family detached dwelling projects, "exterior noise" means noise measured at an outdoor living area which adjoins and is on the same lot as the dwelling, and which contains at least the following minimum area:
  - (i) Net lot area up to 4,000 sq. ft.: 400 square feet
  - (ii) Net lot area 4,000 sq. ft. to 10 ac.: 10% of net lot area
  - (iii) Net lot area over 10 ac.: 1 ac.

- (b) For all other projects, "exterior noise" means noise measured at all exterior areas which are provided for group or private usable open space purposes.
- (c) For County road construction projects, the exterior noise level due to vehicular traffic impacting a noise sensitive area should not exceed the following values:
  - (i) Federally funded projects: The Noise standard contained in applicable Federal Highway Administration Standards.
  - (ii) Other projects: 60 decibels (A), except if the existing or projected noise level without the project is 58 decibels (A) or greater, a 3 decibel (A) increase is allowed, up to the maximum permitted by Federal Highway Administration Standards.

"Group or Private Usable Open Space" shall mean: Usable open space intended for common use by occupants of a development, either privately owned and maintained or dedicated to a public agency, normally including swimming pools, recreation courts, patios, open landscaped areas, and greenbelts with pedestrian walkways and equestrian and bicycle trails, but not including off-street parking and loading areas or driveways (Group Usable Open Space); and usable open space intended for use of occupants of one dwelling unit, normally including yards, decks and balconies (Private Usable Open Space).

"Interior noise": The following exception shall apply: For rooms which are usually occupied only a part of the day (schools, libraries, or similar), the interior one-hour average sound level, due to noise outside, should not exceed 50 decibels (A).

"Noise sensitive land use" means any residence, hospital, school, hotel, resort, library or any other facility where quiet is an important attribute of the environment.

**Action Program 4b1** Recommend programs to soundproof buildings or redevelop areas where it is impossible to reduce existing source noise to acceptable levels.

**Action Program 4b2** Study the feasibility of extending the application of Section 1092, California Administrative Code dealing with noise insulation standards to single-family dwellings, and incorporating higher standards for reduction of exterior noise intrusion into structures.

**Action Program 4b3** Require present and projected noise level data to be included in Environmental Impact Reports. Designs to mitigate adverse noise impacts shall also be used.

(2) any sound or noise exceeding criteria standards, or levels as set forth in this chapter.

(t) Water Craft shall mean any boat, ship, barge, craft or floating thing designed for navigation in the water which is propelled by machinery, whether or not such machinery is the principal source or propulsion, but shall not include a vessel possessing a valid marine document issued by the United States Bureau of Customs or any federal agency successor thereto.

(u) Supplementary Definitions of Technical Terms - definitions of technical terms not defined herein shall be obtained from the American National Standard, "Acoustical Terminology" S1. 1-1961 (R-1971) or the latest revision thereof.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88; amended by Ord. No. 8477 (N.S.), adopted 11-8-94, operative 1-1-95; amended by Ord. No. 8975 (N.S.), adopted 12-8-98, operative 1-2-99)

**Cross reference(s)**--Definitions, § [12.101](#) et seq.

#### **SEC. 36.403. SOUND LEVEL MEASUREMENT.**

(a) Any sound or noise level measurement made pursuant to the provisions of this ordinance shall be measured with a sound level meter using the A-weighting and "slow" response pursuant to applicable manufacturer's instructions.

(b) The sound level meter shall be appropriately calibrated and adjusted as necessary by means of an acoustical calibrator of the coupler-type to assure meter accuracy within the tolerances set forth in American National Standards ANSI-S1. 4-1971.

(c) For outside measurements, the microphone shall be not less than four (4) feet above the ground, at least four (4) feet distant from walls or other large reflecting surfaces and shall be protected from the effects of wind noises by the use of appropriate wind screens and the location selected shall be at any point on the affected property. In cases when the microphone must be located within ten (10) feet of walls or similar large reflecting surfaces, the actual measured distances and orientation of sources, microphone and reflecting surfaces shall be noted and recorded. In no case shall a noise measurement be taken within five (5) feet of the noise source.

(d) For inside measurements, the microphone shall be at least three (3) feet distant from any wall, ceiling or partition, and the average measurement of at least three (3) microphone positions throughout the room shall be determined.

#### **SEC. 36.404. SOUND LEVEL LIMITS.**

Unless a variance has been applied for and granted, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below, except that:

(1) Construction noise level limits shall be governed by Section 36.410 of this chapter; and

(2) Where a noise study has been conducted and the noise mitigation measures recommended by that study have been made conditions of approval of a Major Use Permit which authorizes the noise-generating use or activity, and the decision making body approving the Major Use Permit determined that those mitigation measures reduce potential noise impacts to a level below significance, then implementation and compliance with such noise mitigation measures shall be deemed to constitute compliance with this section.

| Zone  |                   | APPLICABLE LIMIT ONE-HOUR AVERAGE SOUND LEVEL (DECIBELS) |
|---|-------------------|--|
| R-S, R-D, R-R, R-MH, A-70, A-72, S-80, S-81, S-87, S-88, S-90, S-92, R-V, and R-U Use Regulations with a density of less than 11 dwelling units per acre. | 7 a.m. to 10 p.m. | 50   |
|   | 10 p.m. to 7 a.m. | 45   |
| R-RO, R-C, R-M, C-30, S-86, R-V AND R-U Use Regulations with a density of 11 or more dwelling units per acre.   | 7 a.m. to 10 p.m. | 55   |
|   | 10 p.m. to 7 a.m. | 50   |
| S-94 and all other commercial zones.  | 7 a.m. to 10 p.m. | 60   |
|   | 10 p.m. to 7 a.m. | 55   |
| M-50, M-52, M-54  | Anytime           | 70   |
| S-82, M-58, and all other industrial zones.   | Anytime           | 75   |

If the measured ambient level exceeds the applicable limit noted above, the allowable one hour average sound level shall be the ambient noise level. The ambient noise level shall be measured when the alleged noise violation source is not operating.

The sound level limit at a location on a boundary between two (2) zoning districts is the arithmetic mean of the respective limits for the two districts; provided however, that the one-hour average sound level limit applicable to extractive industries, including but not limited to borrow pits and mines, shall be

75 decibels at the property line regardless of the zone where the extractive industry is actually located.

Fixed-location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section, measured at or beyond six (6) feet from the boundary of the easement upon which the equipment is located.

(Amended by Ord. No. 7094 (N.S.), effective 3-25-86; amended by Ord. No. 9478 (N.S.), effective 7-19-02)

#### **SEC. 36.405. MOTOR VEHICLES.**

(a) Repairs of Motor Vehicles. It shall be unlawful for any person within the County to repair, rebuild, or test any motor vehicle in such a manner as to cause disturbing, excessive or offensive noises as defined in Section 36.402(s) of this chapter.

(b) On-Highway. Violations for exceeding applicable noise level limits as to persons operating motor vehicles on a public street or highway in the County shall be prosecuted under applicable California Vehicle Code provisions and under Federal Regulation adopted pursuant to 42 U.S.C. 4905(a)(1)(A), (B), and (C)(ii), (iii) for which enforcement responsibility is delegated to local governmental agencies.

(c) Off-Highway. Except as otherwise provided for in this ordinance, it shall be unlawful to operate any motor vehicle of any type on any site other than on a public street or highway as defined in the California Vehicle Code in a manner so as to cause noise in excess of those noise levels permitted for On-Highway motor vehicles as specified in the table "35 miles per hour or less speed limits" contained in Section 23130 of the California Vehicle Code.

(d) Emergency Vehicles. Nothing in this section shall apply to authorized emergency vehicles when being used in emergency situations.

(e) Urban Transit Buses. Buses as defined in the California Vehicle Code shall at all times comply with the requirements of this section.

#### **SEC. 36.406. POWERED MODEL VEHICLES.**

It shall be unlawful for any person to operate any powered model vehicle except between the hours of 7 a.m. and 9 p.m. and then only in such a manner so as not to emit noise in excess of those levels set forth in Section 36.404; however, if powered model vehicles are operated in public parks at a point more than 100 feet from the property line, the noise level shall be determined at a distance of 100 feet from the noise source instead of at the property line, and

noises from powered model vehicles measured at that distance in excess of the noise limits specified in Section 36.404 are prohibited.

#### **SEC. 36.407. REFUSE VEHICLES & PARKING LOT SWEEPERS.**

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or parking lot sweeper between the hours of 10 p.m. to 6 a.m. in or adjacent to any residential zone unless a variance has been applied for and granted pursuant to this chapter.

(Amended by Ord. No. 7428 (N.S.), effective 2-4-88)

#### **SEC. 36.408. WATERCRAFT.**

Violations for excessive noise of watercraft operating in waters under the jurisdiction of the County of San Diego shall be prosecuted under applicable provisions of the California Harbors and Navigation Code.

#### **SEC. 36.409. AIRPORTS.**

All noise emanating from airport activities other than that produced by aircraft shall be subject to all of the regulations contained in this ordinance.

#### **SEC. 36.410. CONSTRUCTION EQUIPMENT.**

Except for emergency work, it shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site, except as outlined in subsections (a) and (b) below:

(a) It shall be unlawful for any person, including the County of San Diego, to operate construction equipment at any construction site on Sundays, and days appointed by the President, Governor, or the Board of Supervisors for a public fast, Thanksgiving, or holiday. Notwithstanding the above, a person may operate construction equipment on the above-specified days between the hours of 10 a.m. and 5 p.m. in compliance with the requirements of subdivision (b) of this Section at his residence or for the purpose of constructing a residence for himself, provided such operation of construction equipment is not carried on for profit or livelihood. In addition, it shall be unlawful for any person to operate construction equipment at any construction site on Mondays through Saturdays except between the hours of 7 a.m. and 7 p.m.

(b) No such equipment, or combination of equipment regardless of age or date of acquisition, shall be operated so as to cause noise at a level in excess of seventy-five (75) decibels for more than 8 hours during any twenty-four (24) hour period when measured at or within the property lines of any property which is developed and used either in part or in whole for residential purposes.

In the event that lower noise limit standards are established for construction equipment pursuant to State or Federal law, said lower limits shall be used as a basis for revising and amending the noise level limits specified in subsection (b) above.

#### **SEC. 36.411. CONTAINERS AND CONSTRUCTION MATERIAL.**

It shall be unlawful for any person to handle or transport or cause to be handled or transported in any public place, any container or any construction material in such a way as to create a disturbing, excessive, or offensive noise as defined under Section 36.402(s) of this ordinance.

#### **SEC. 36.412. SIGNAL DEVICE FOR FOOD TRUCKS.**

No person shall operate or cause to have operated or used any sound signal device other than sound-amplification equipment attached to a motor vehicle wagon or manually propelled cart from which food or any other items are sold which emits a sound signal more frequently than once every ten minutes in any one street block and with a duration of more than ten seconds for any single emission. The sound level of this sound signal shall not exceed ninety (90) decibels at fifty (50) feet.

#### **SEC. 36.413. MULTIPLE FAMILY DWELLING UNITS.**

Notwithstanding any other provisions of this ordinance it shall be unlawful for any person to create, maintain or cause to be maintained any sound within the interior of any multiple family dwelling unit which causes the noises level to exceed those limits set forth below in any other dwelling unit:

| Type of Land Use |             |      | Allowable Interior Noise Level (dBA) |                                    |
|------------------|-------------|------|--------------------------------------|------------------------------------|
|                  |             |      | No Time                              | 1 min in 1 hour    5 min in 1 hour |
| Multifamily      | 10 pm- 7 am | > 45 | 40                                   | 35                                 |
| Residential      | 7 am-10 pm  | > 55 | 50                                   | 35                                 |

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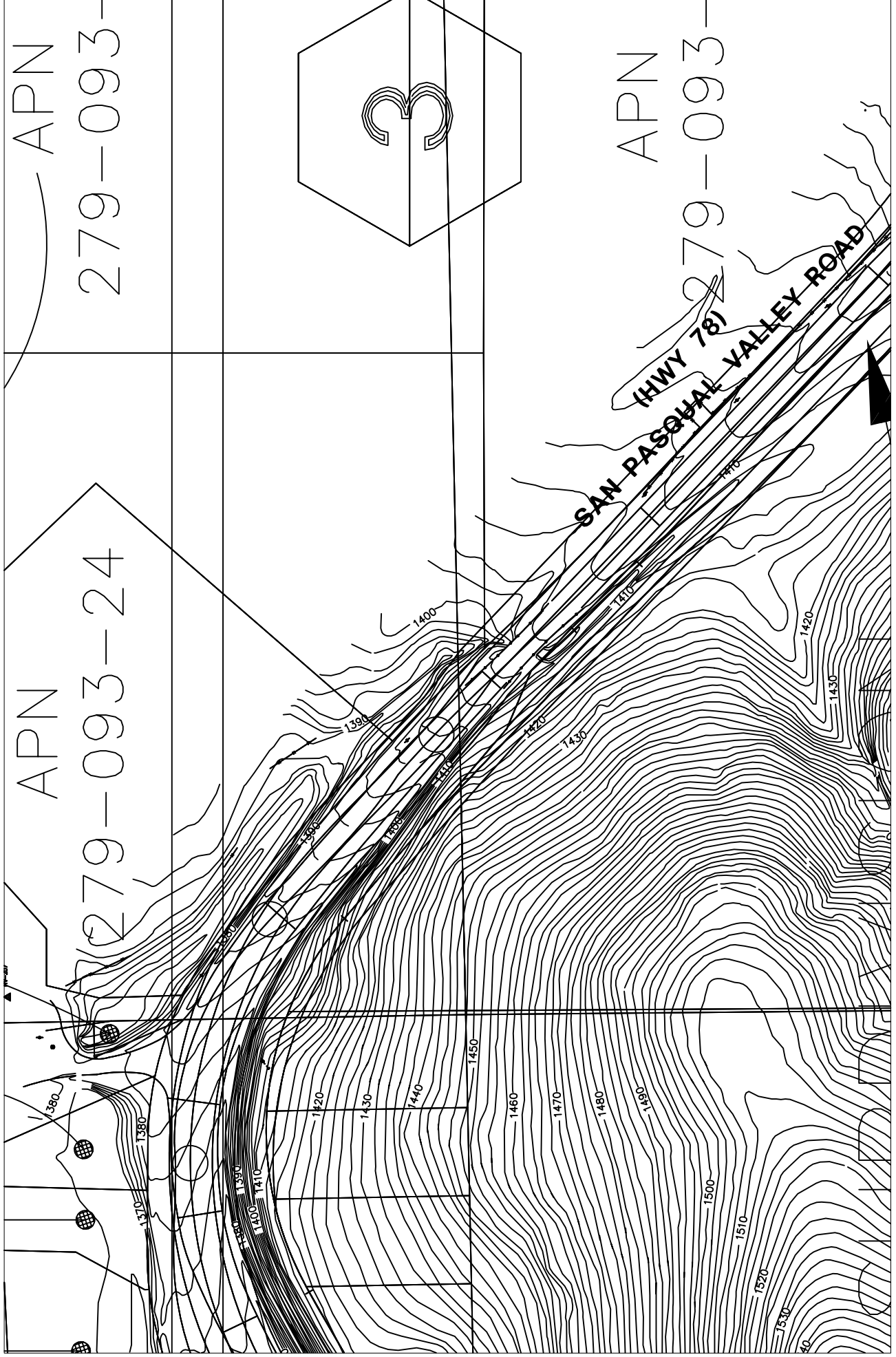
The monitoring procedures outlined under Section 36.403 shall be followed in enforcing this section.

#### **SEC. 36.414. GENERAL NOISE REGULATIONS.**

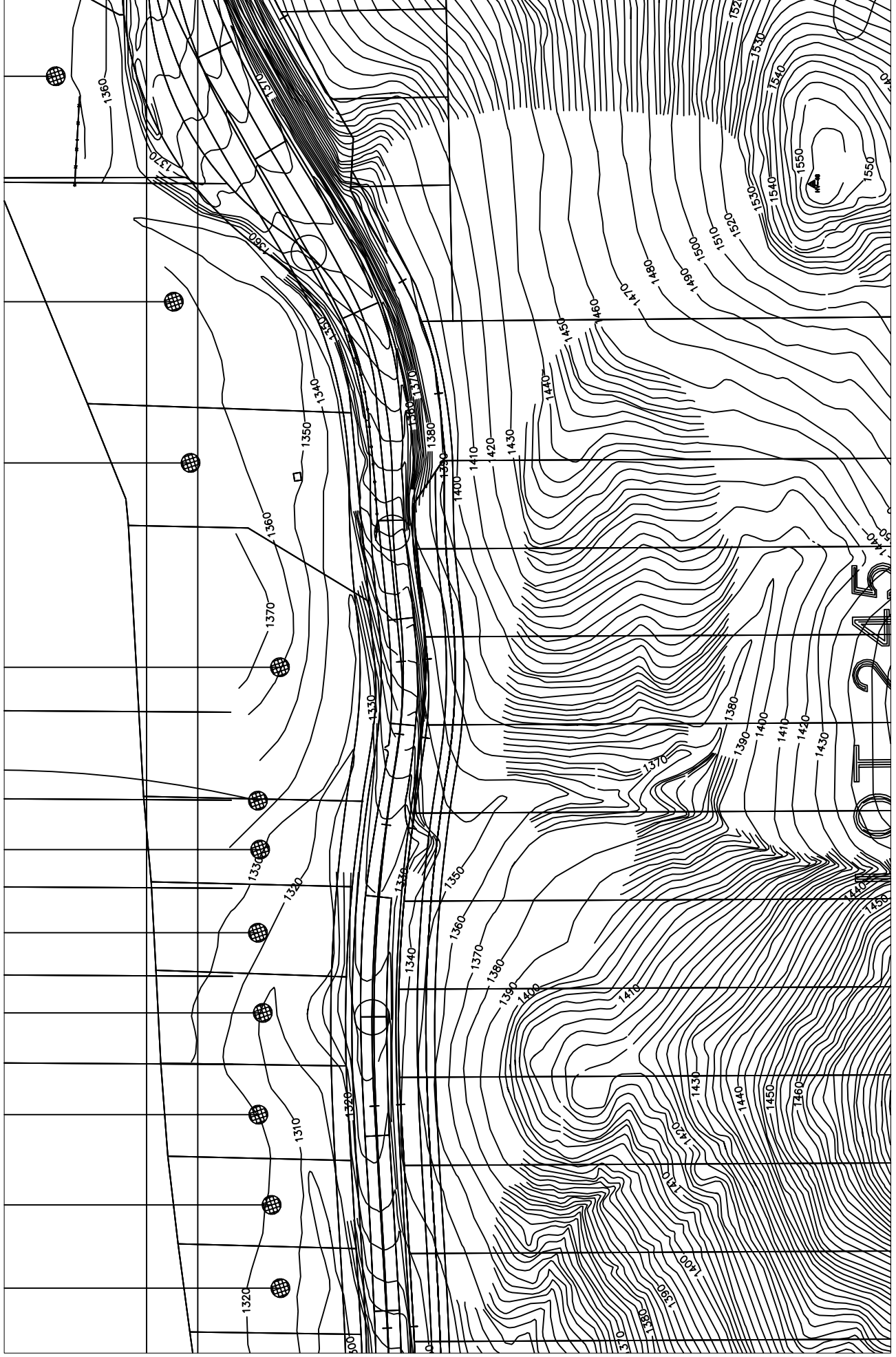
**APPENDIX B**

GRADING PLANS

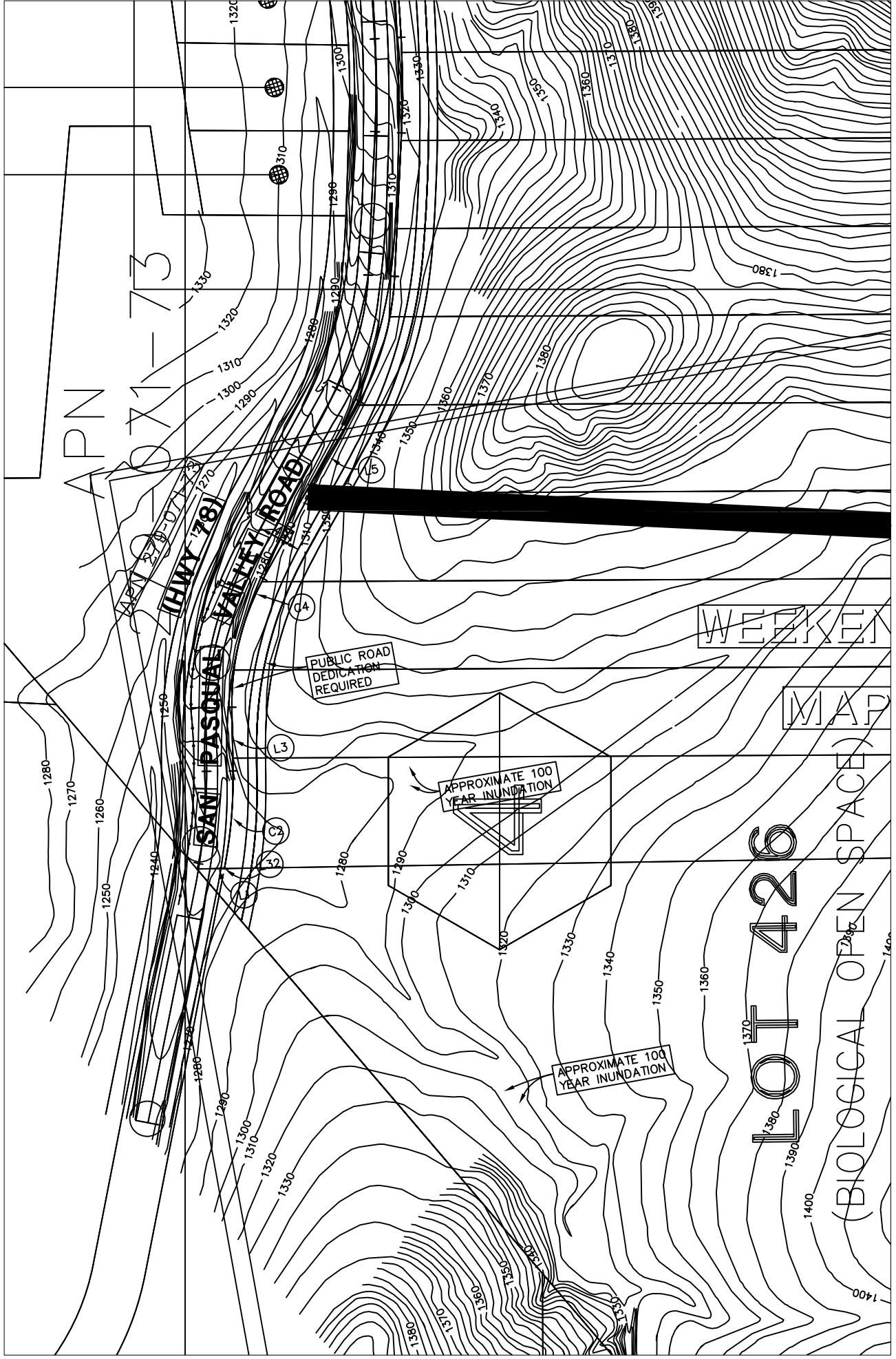
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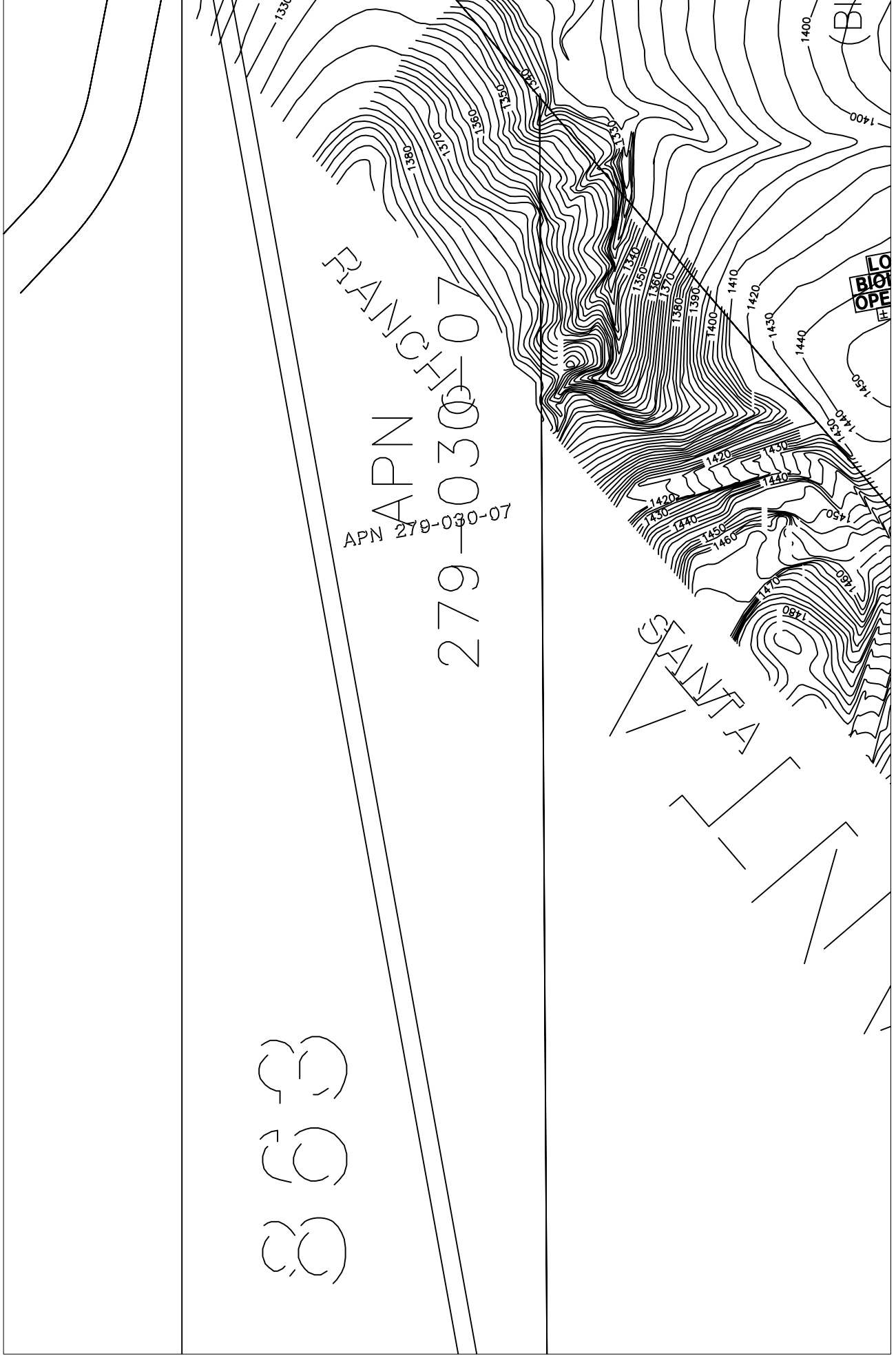
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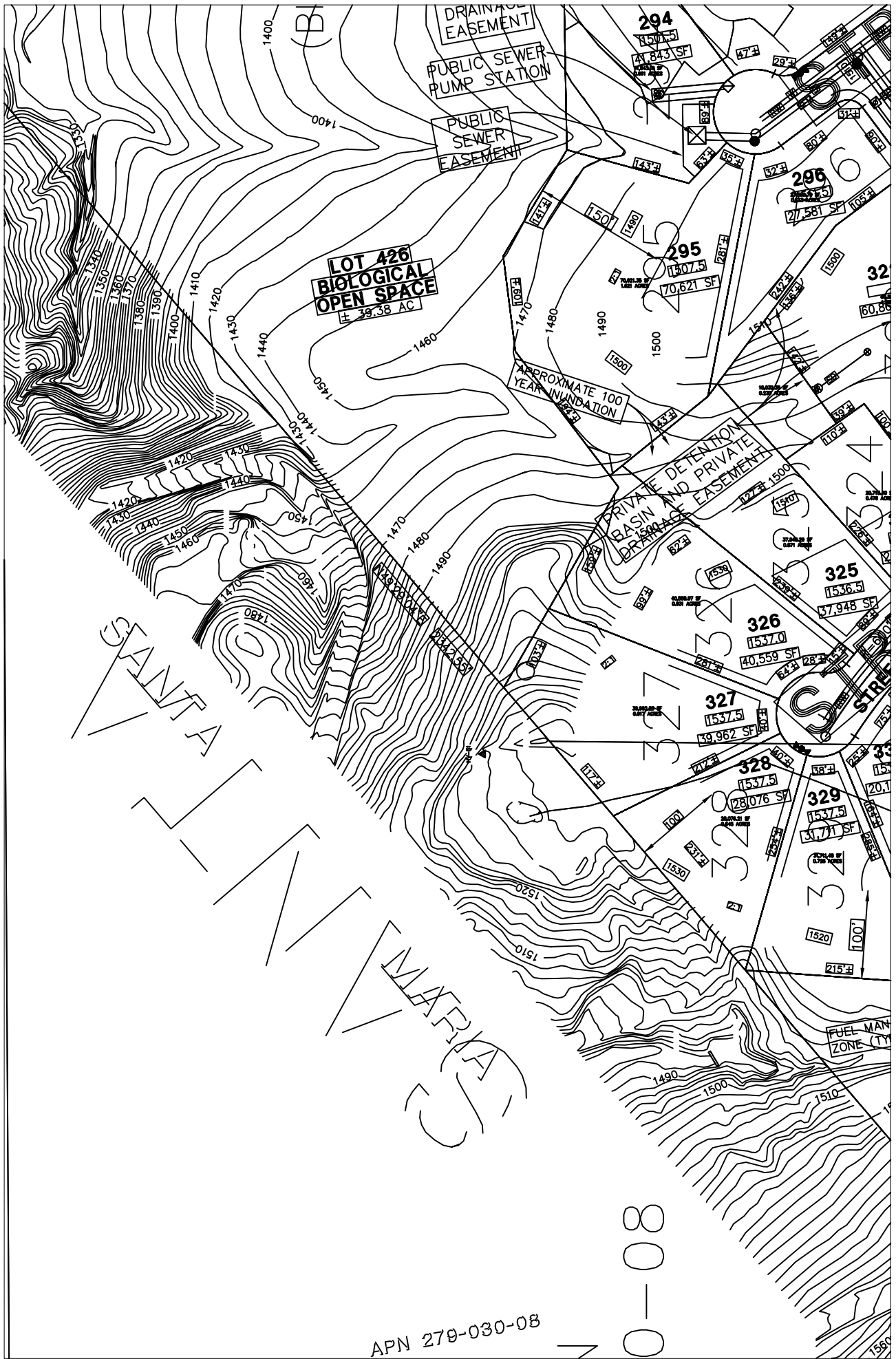
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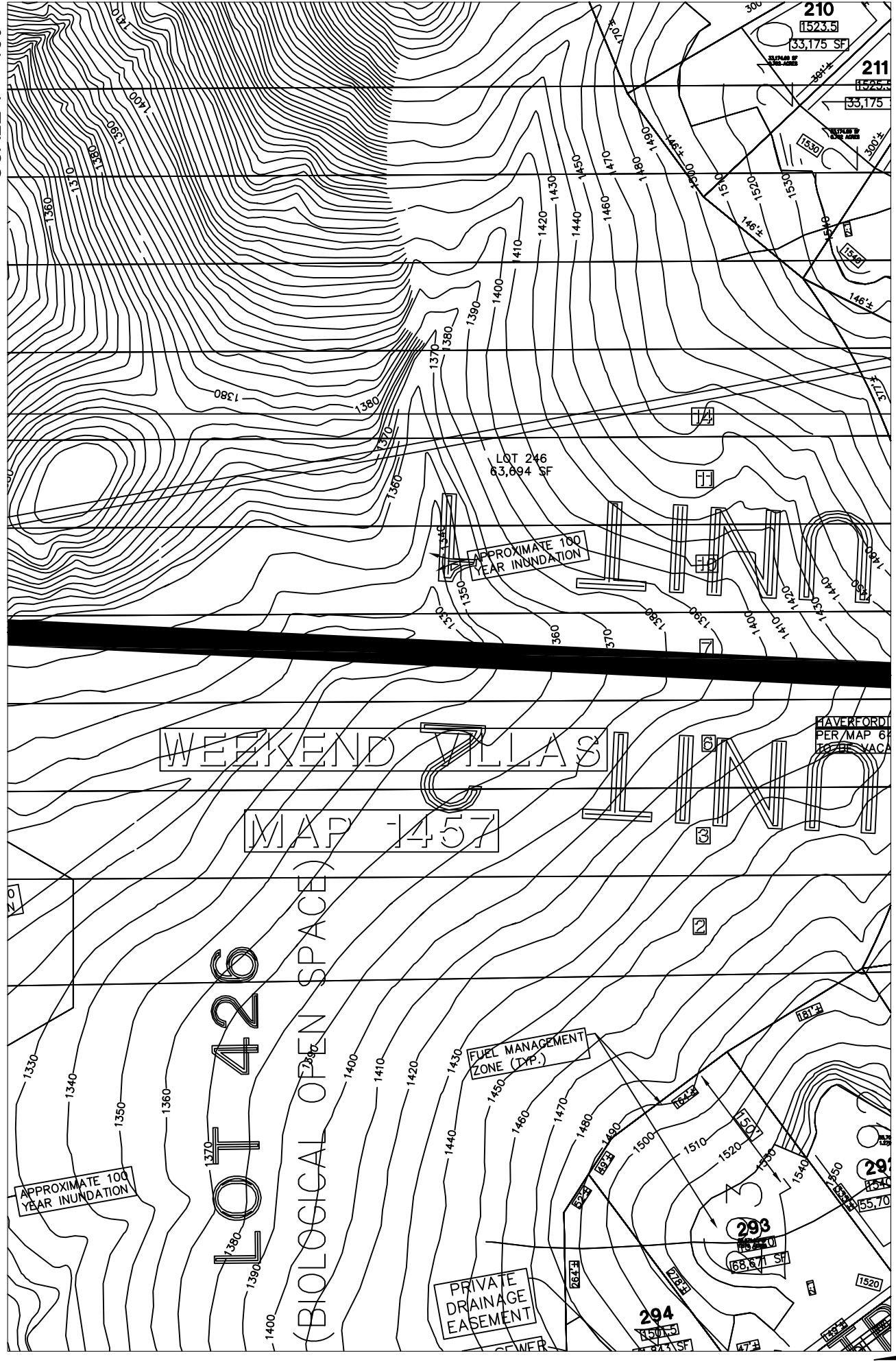
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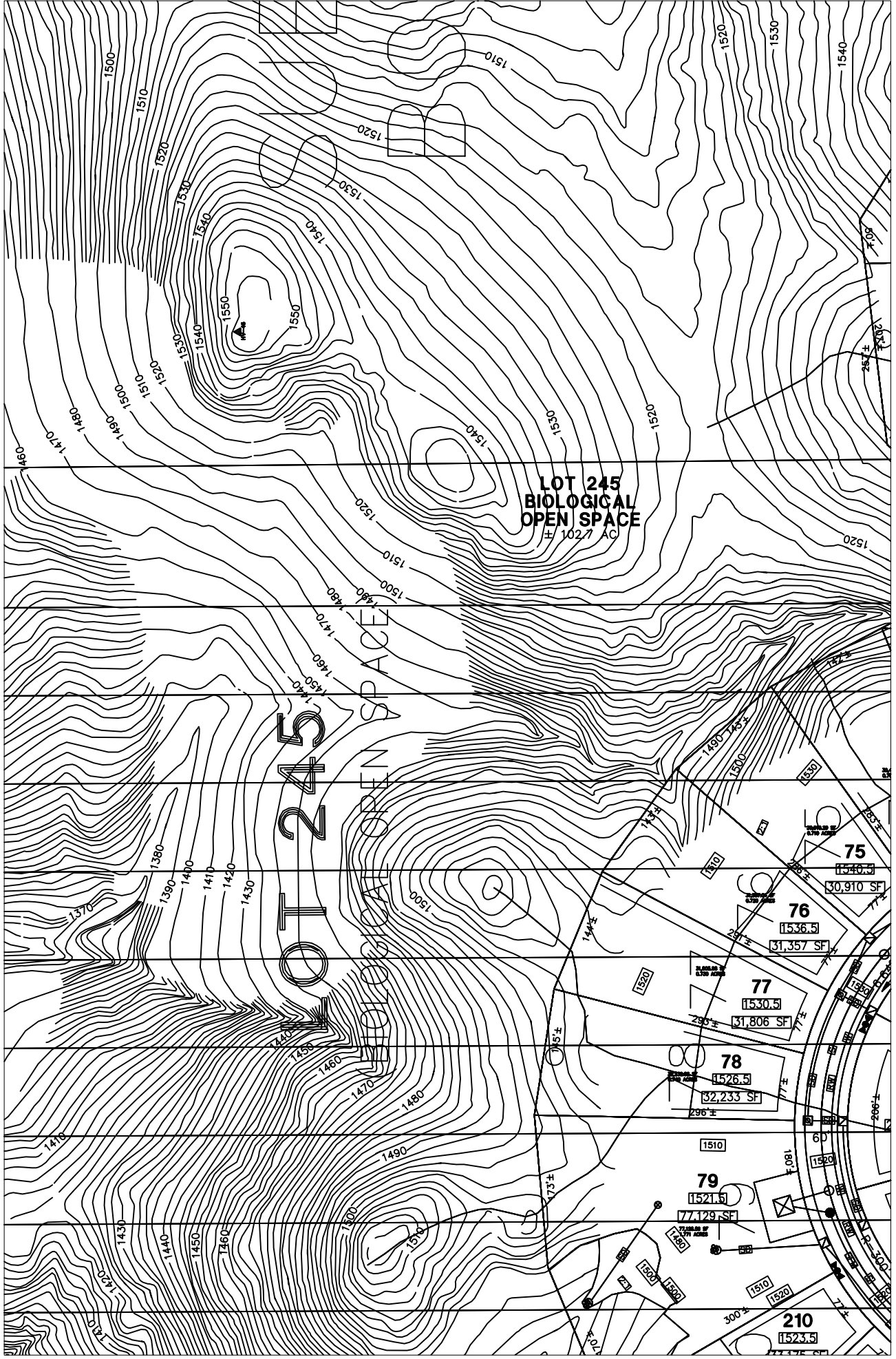
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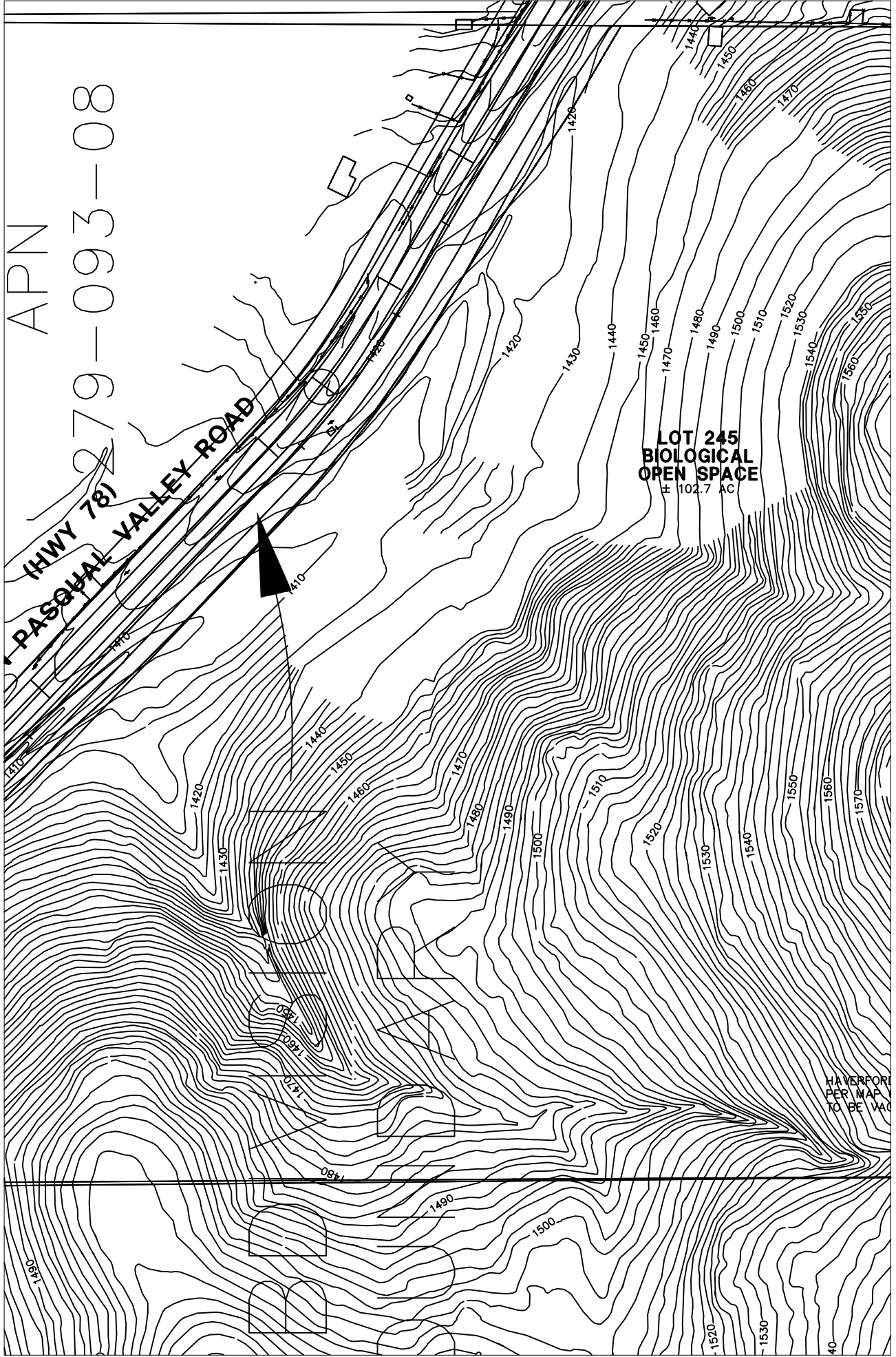
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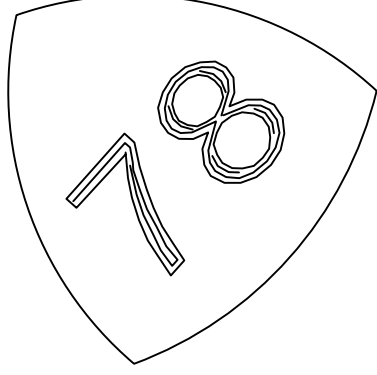


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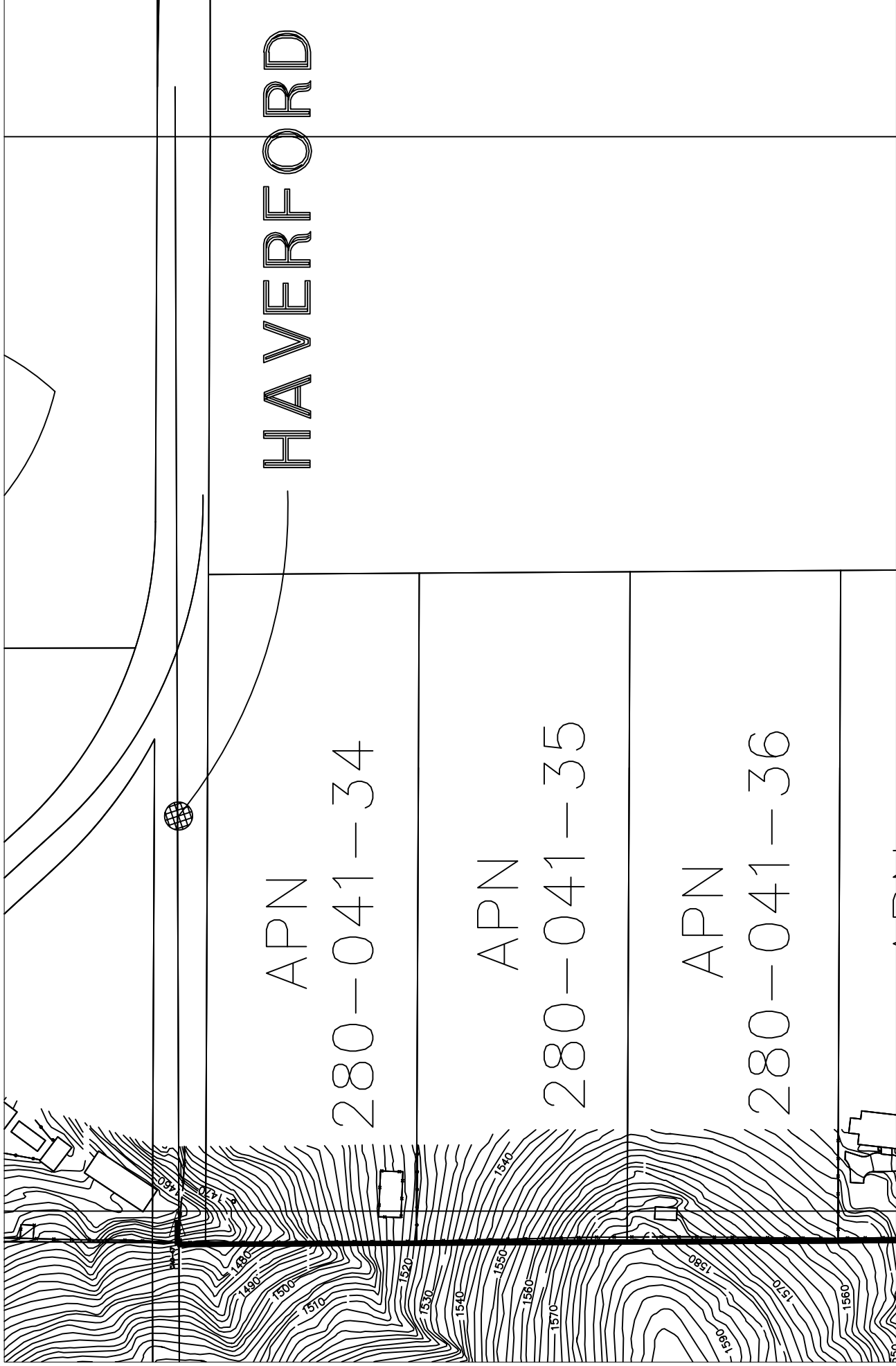
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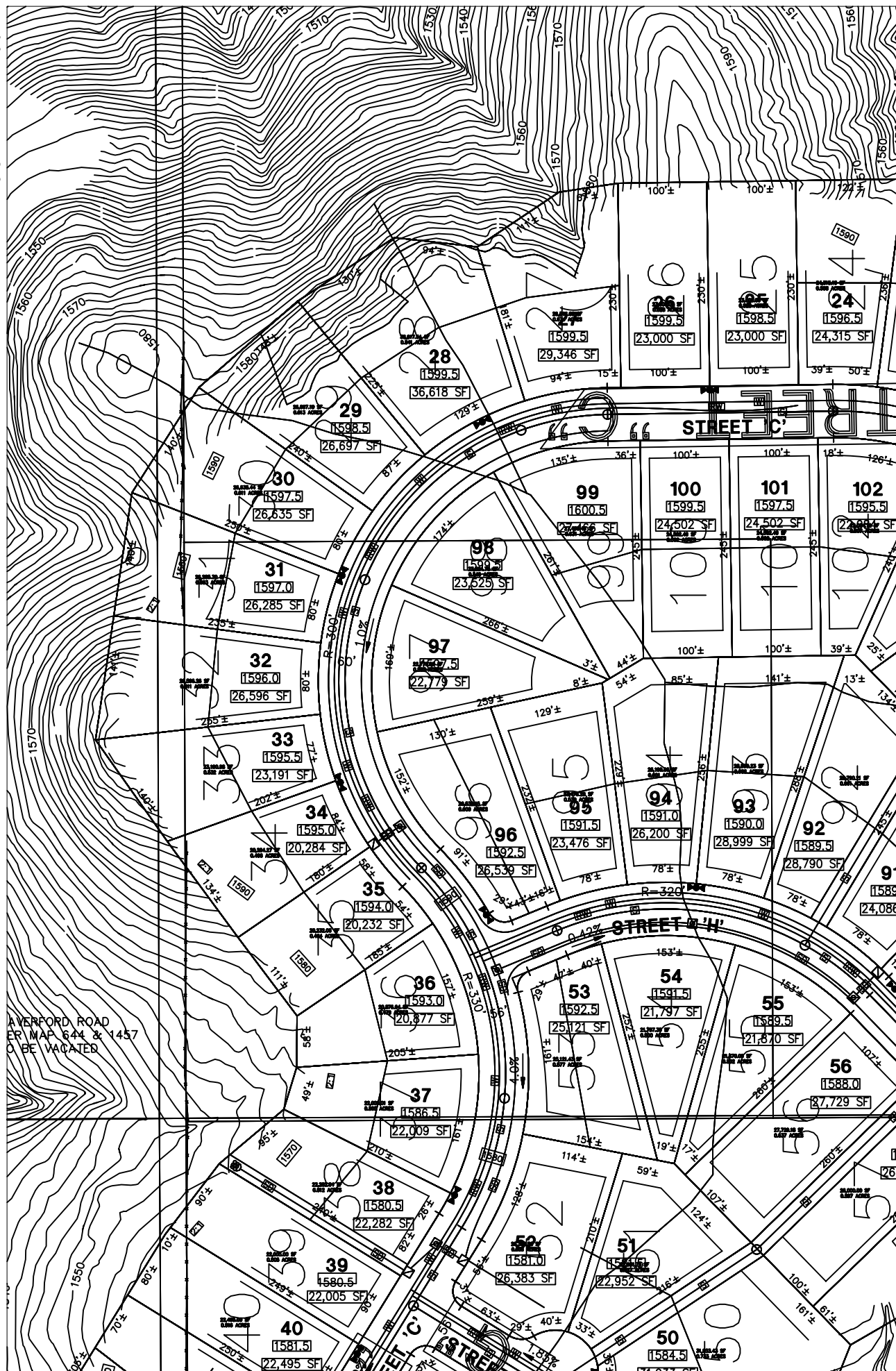
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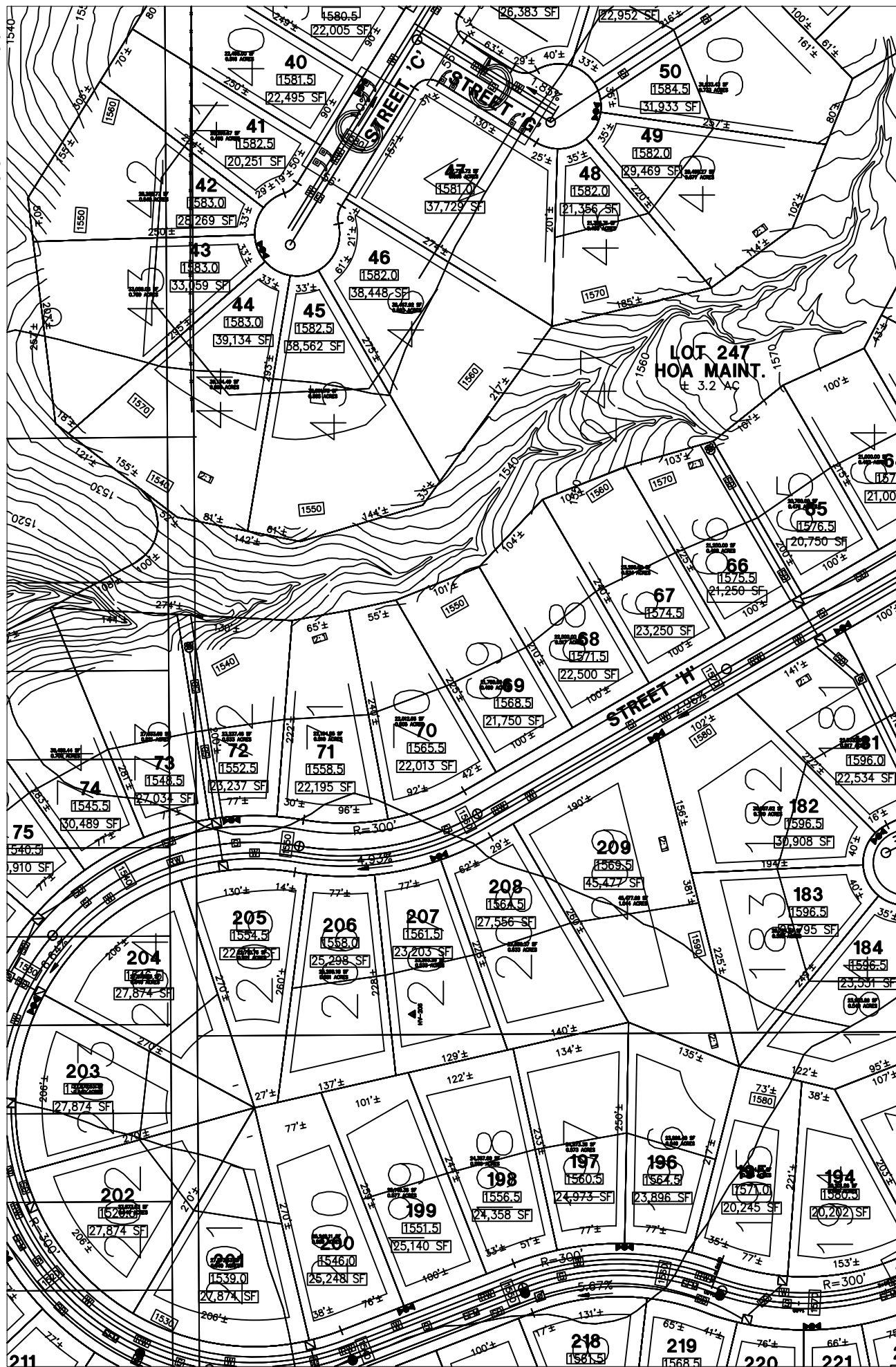


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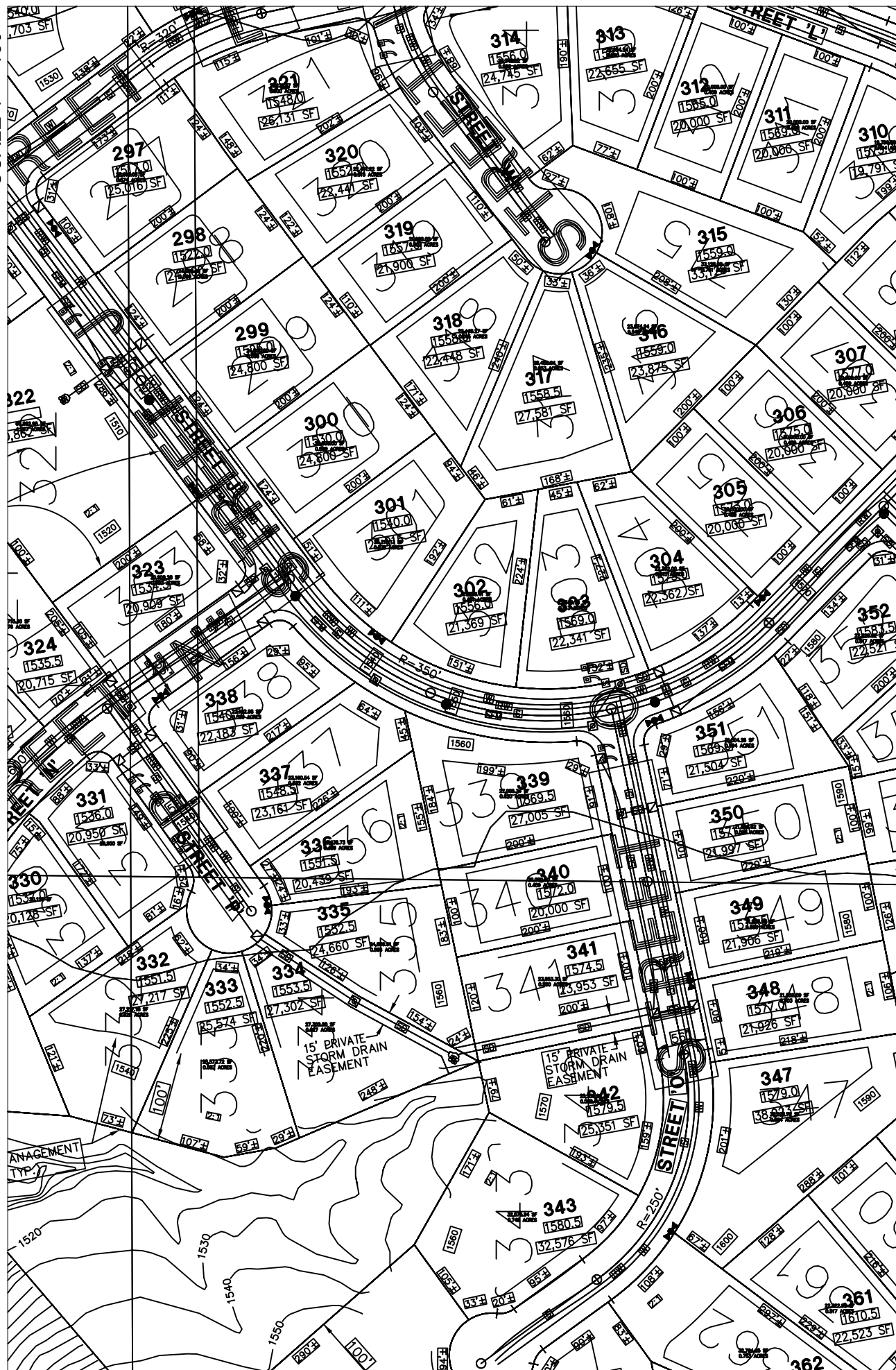
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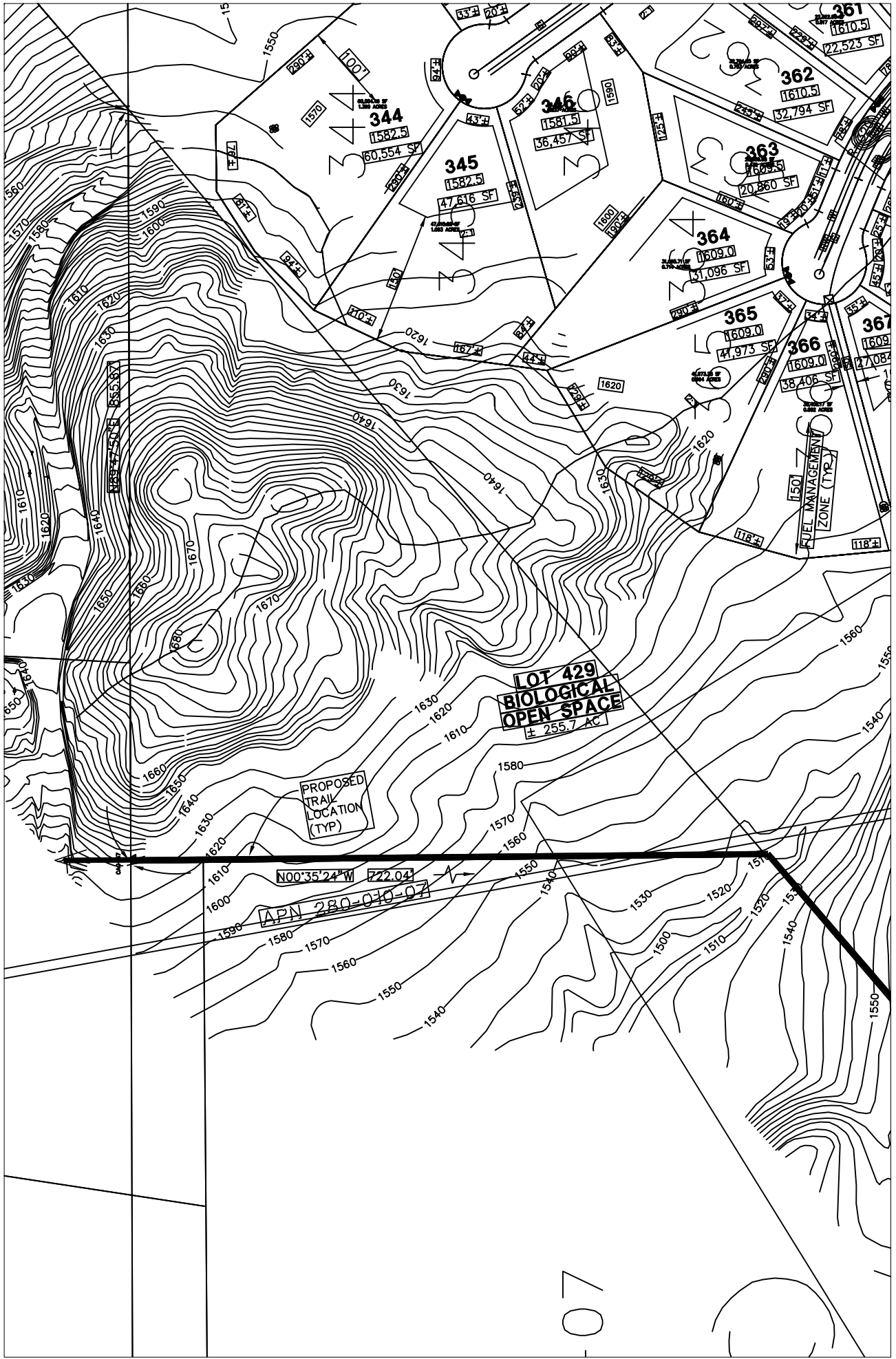




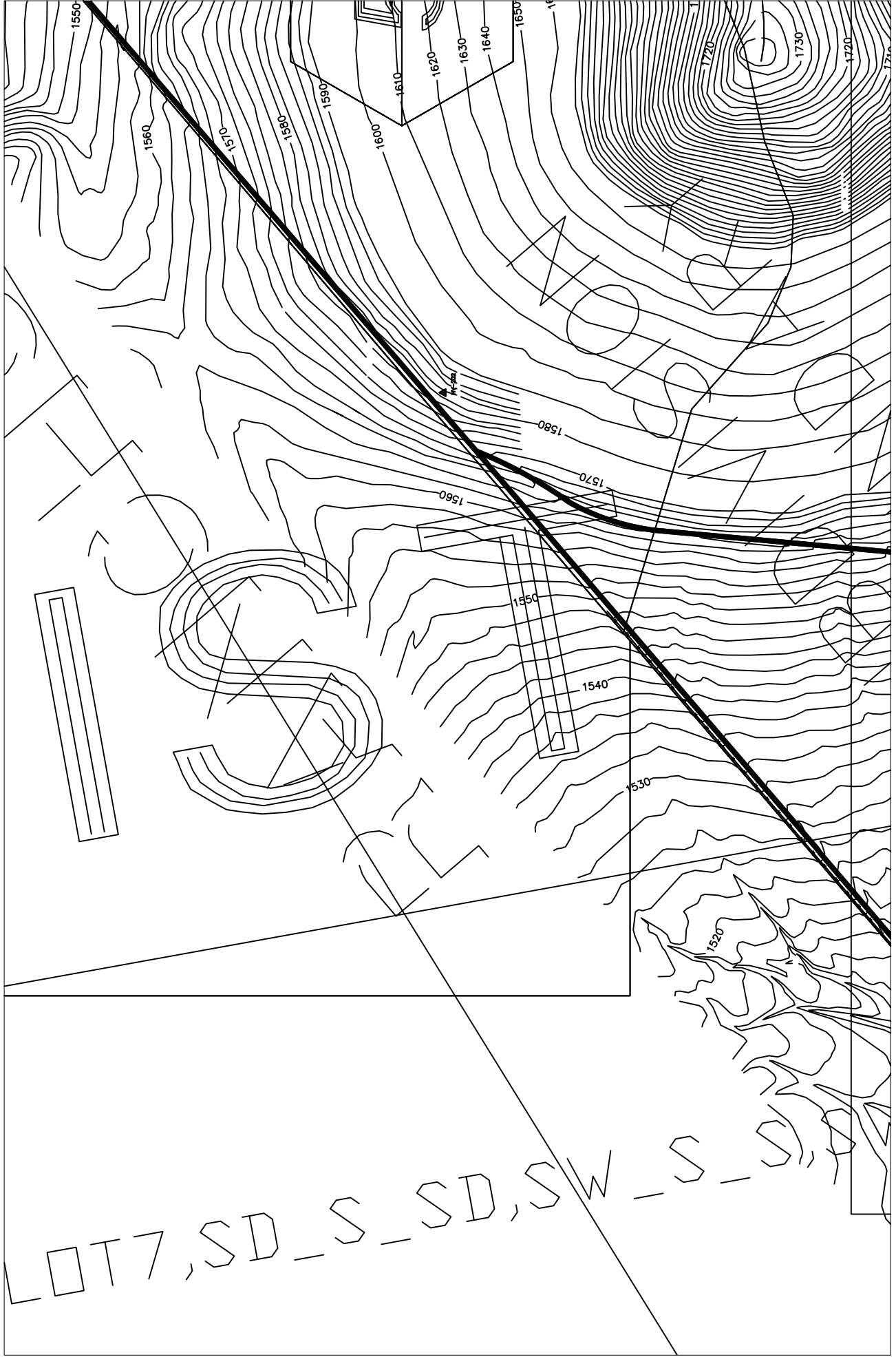
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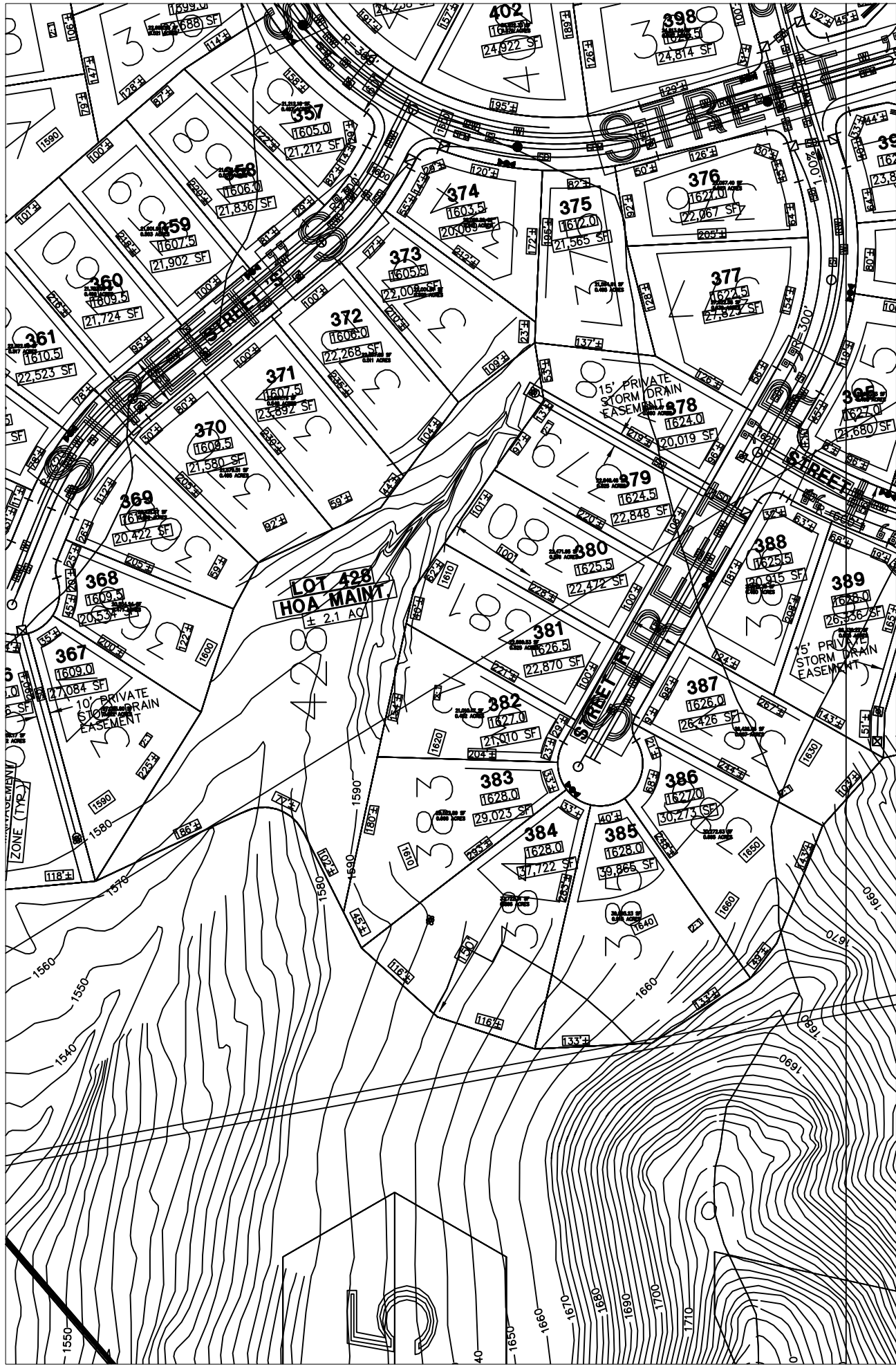
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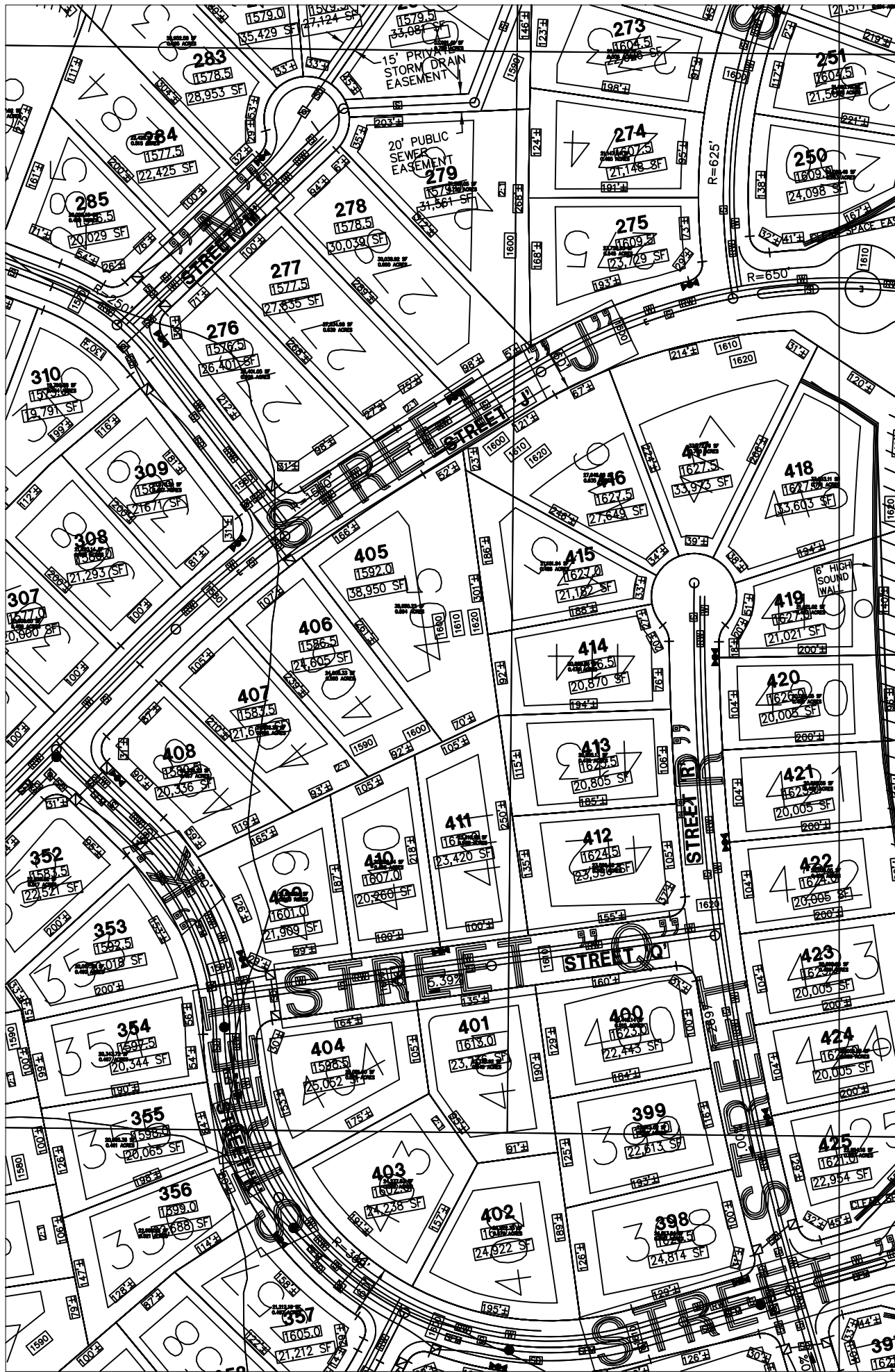
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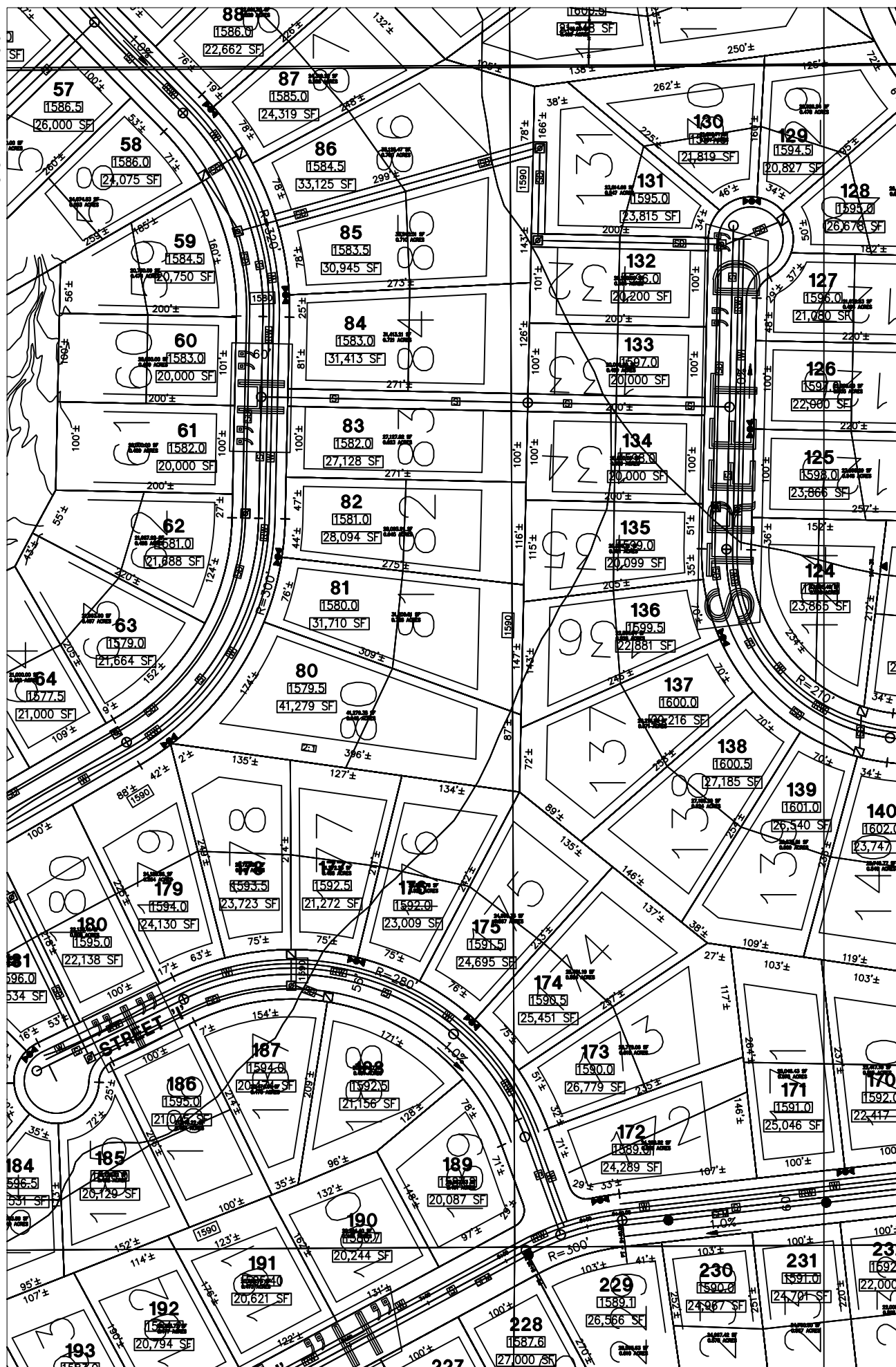
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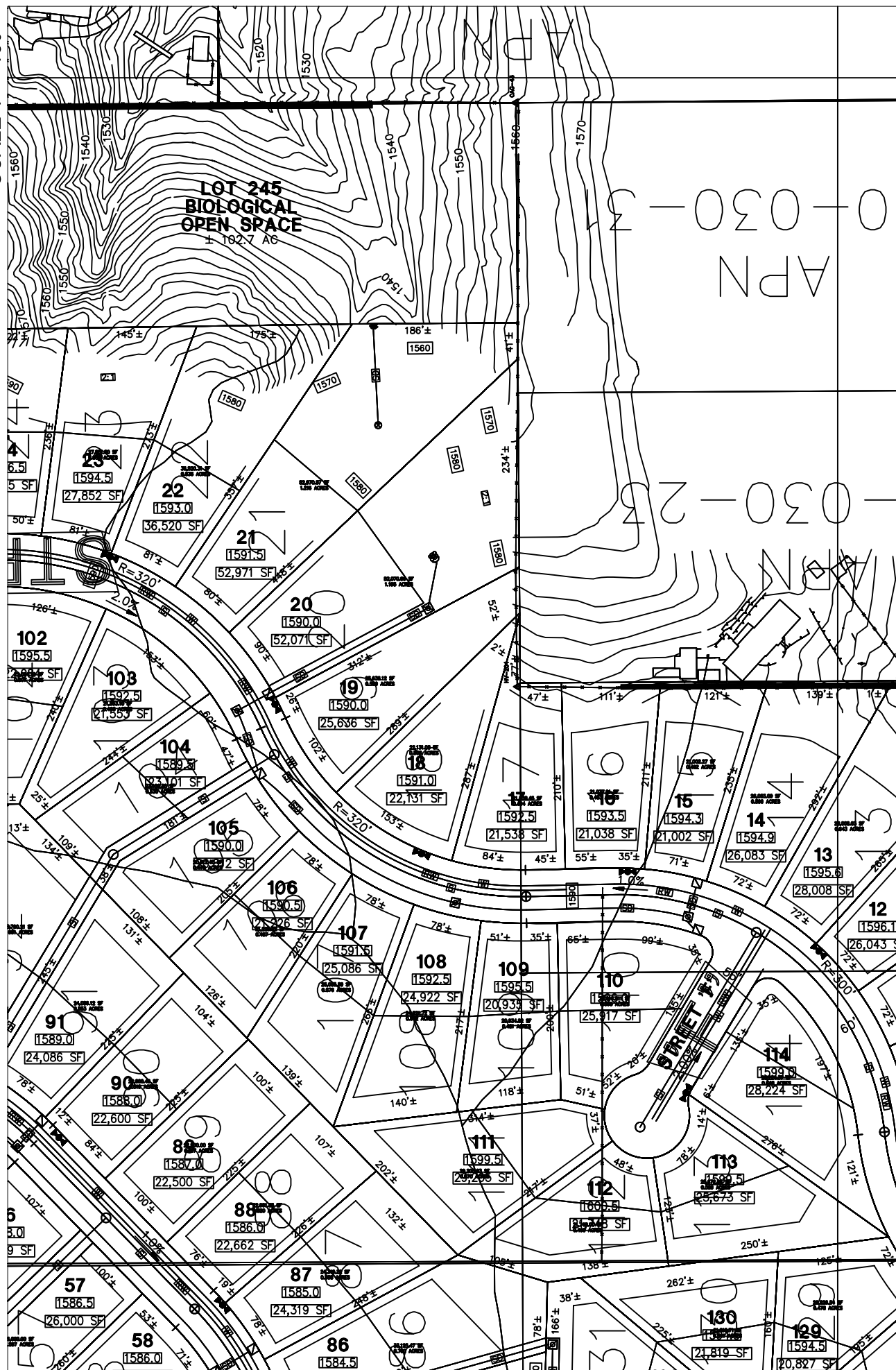


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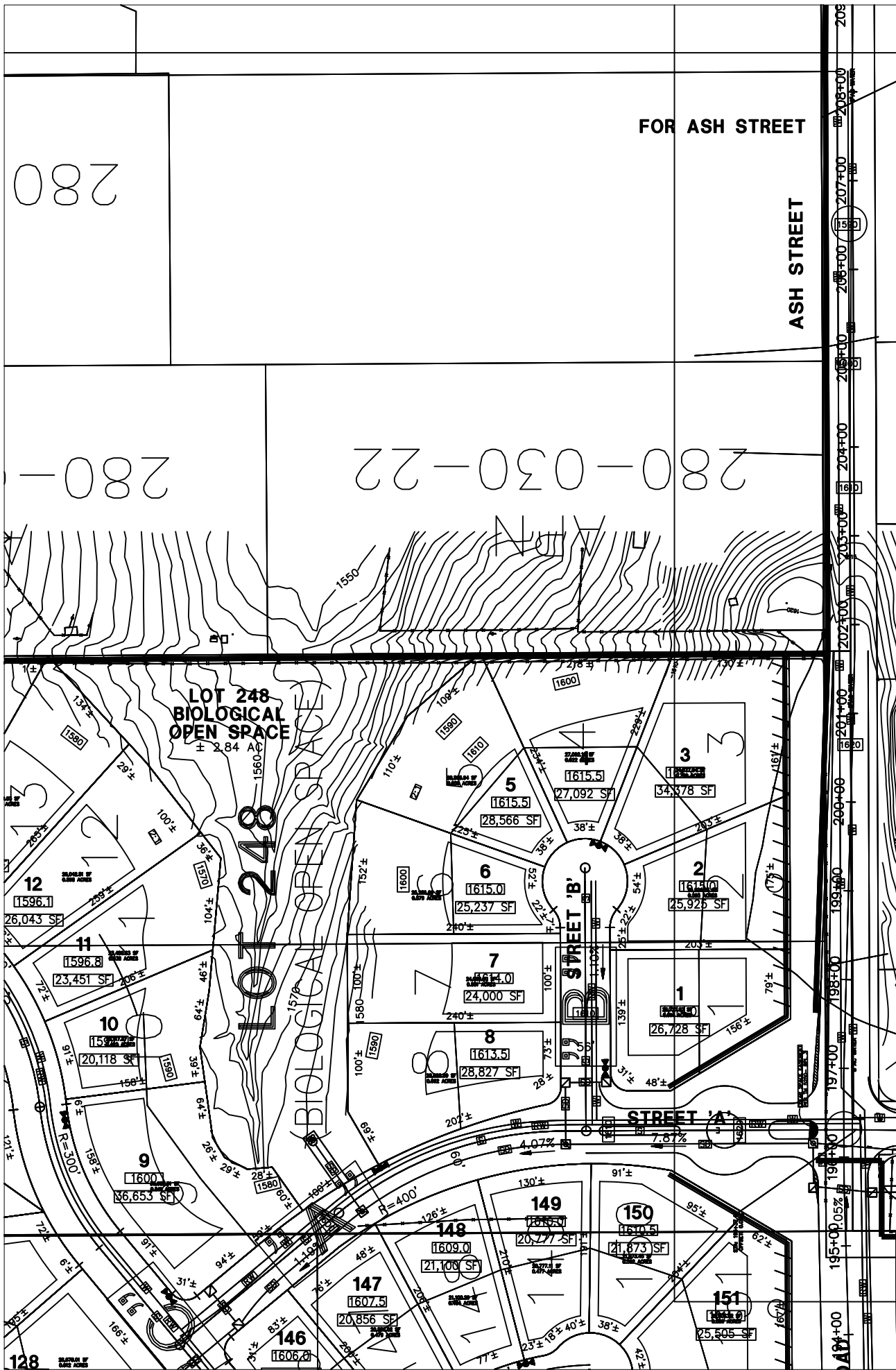




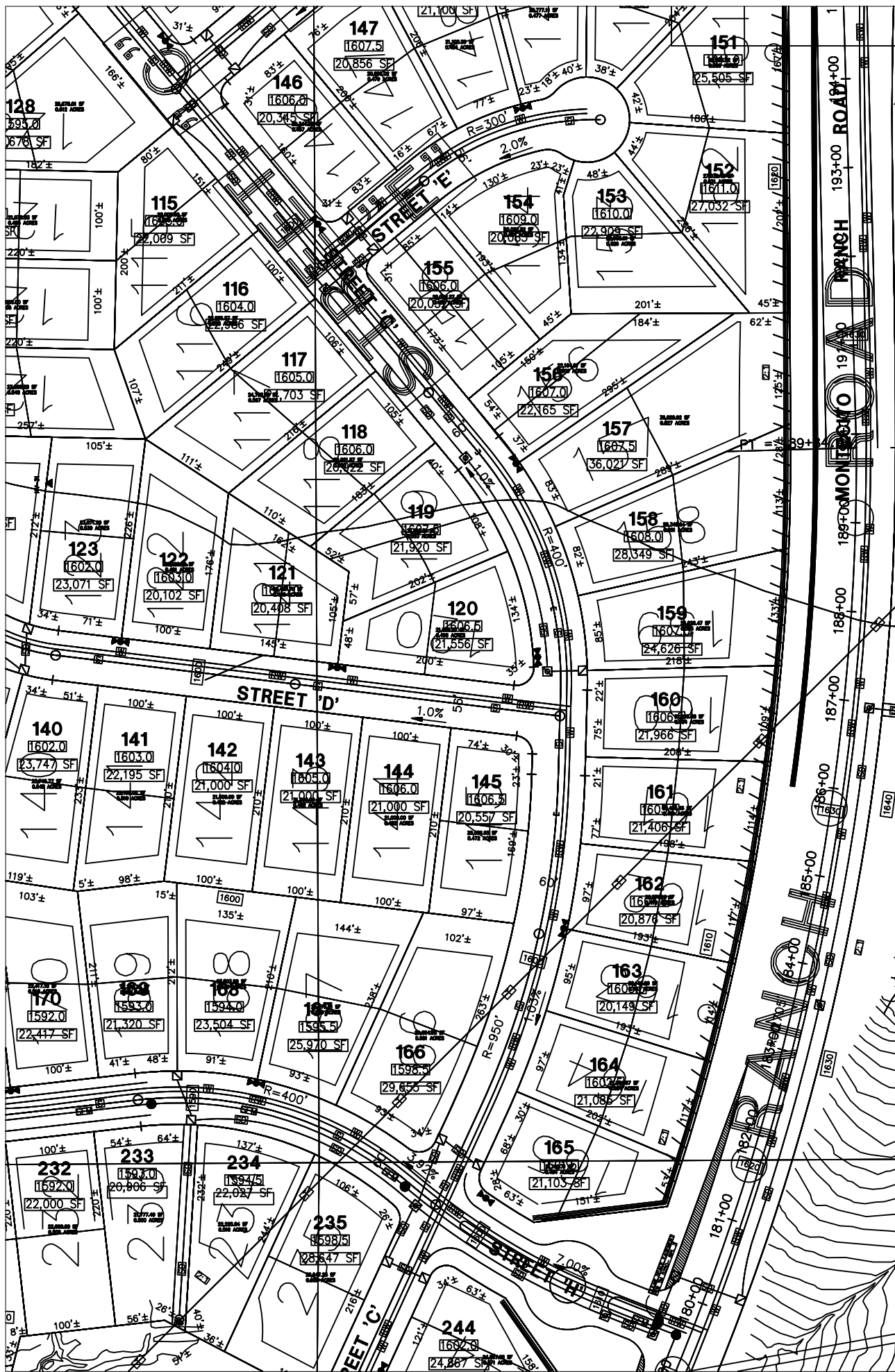
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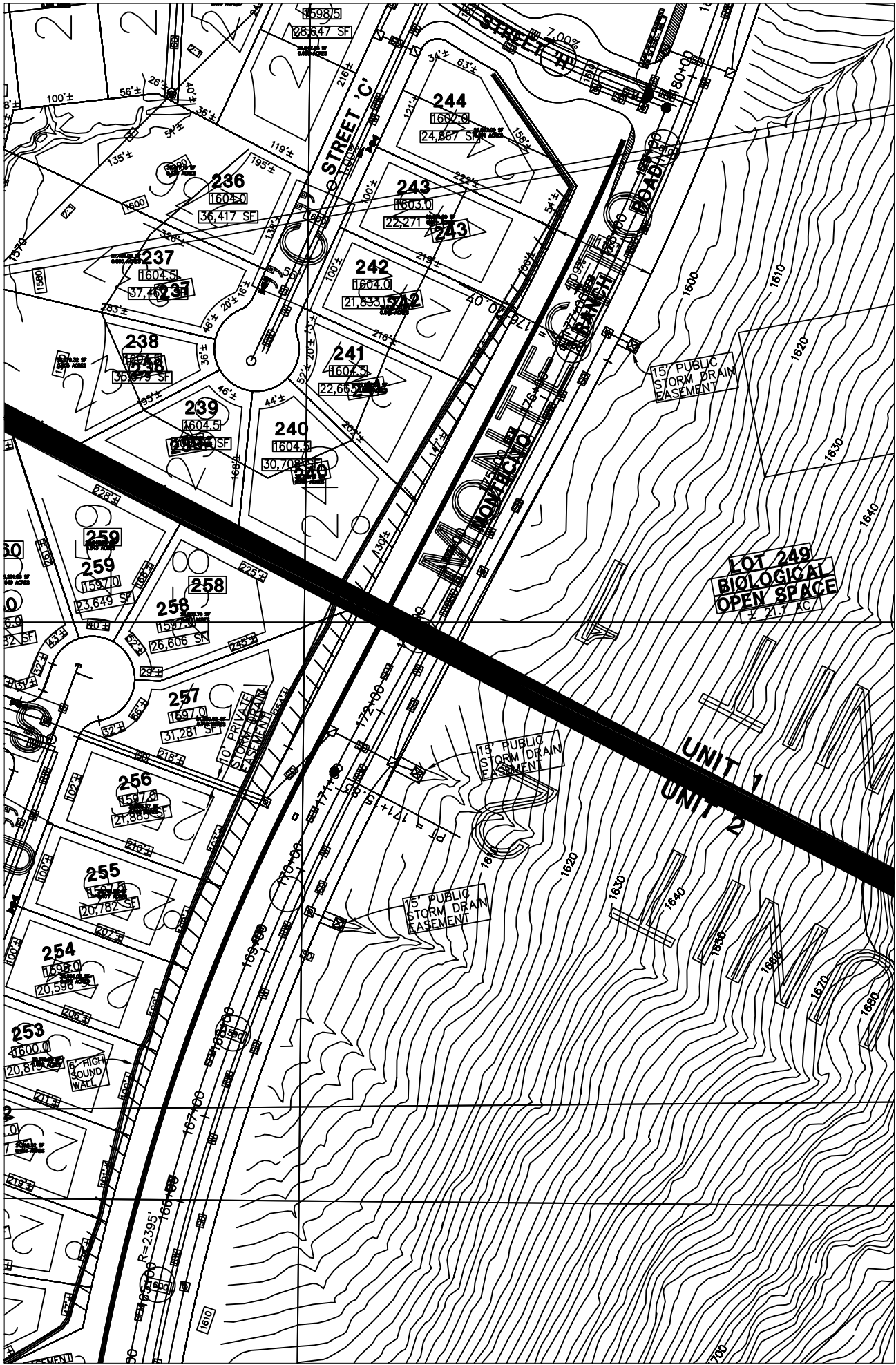
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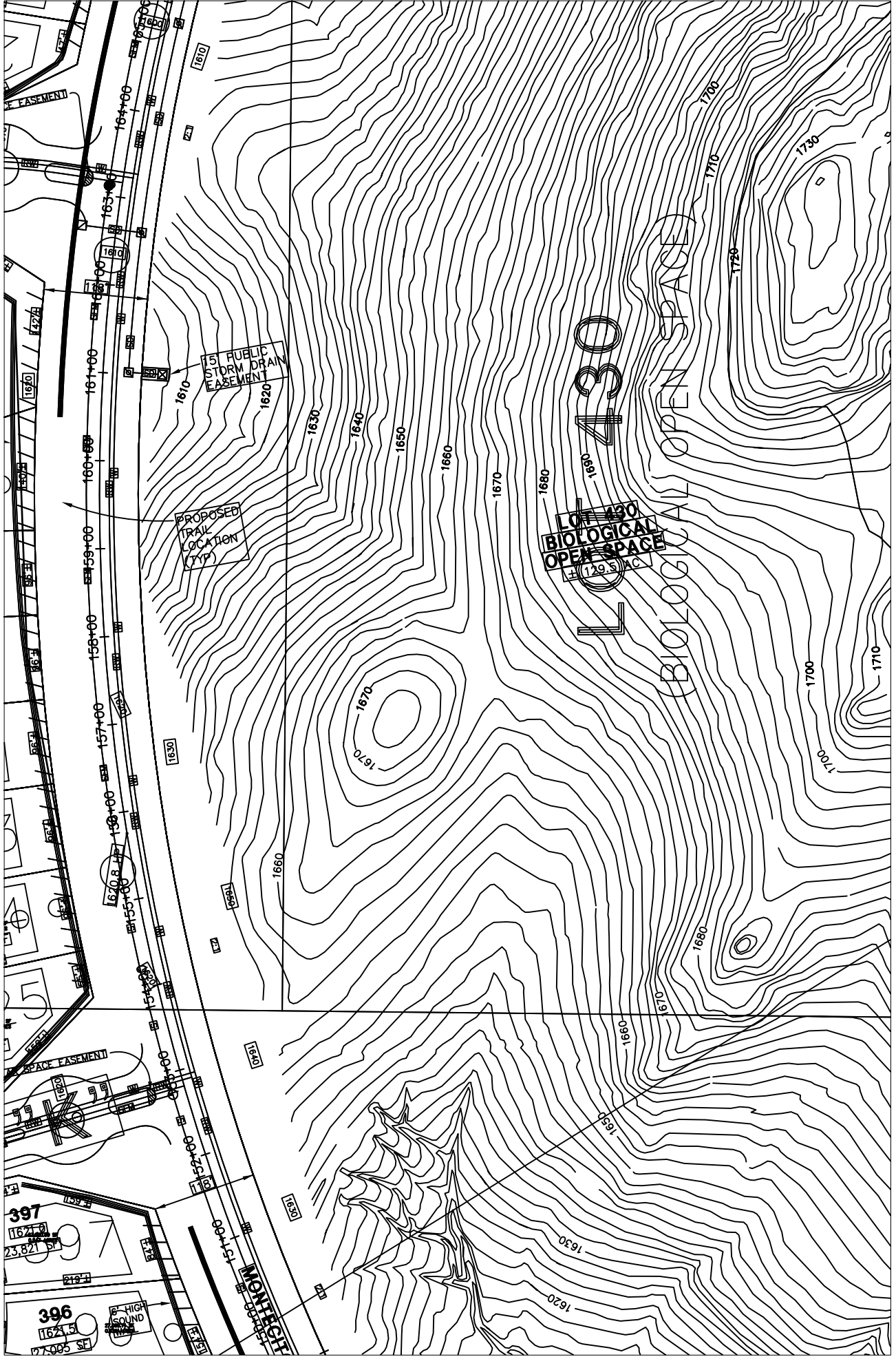
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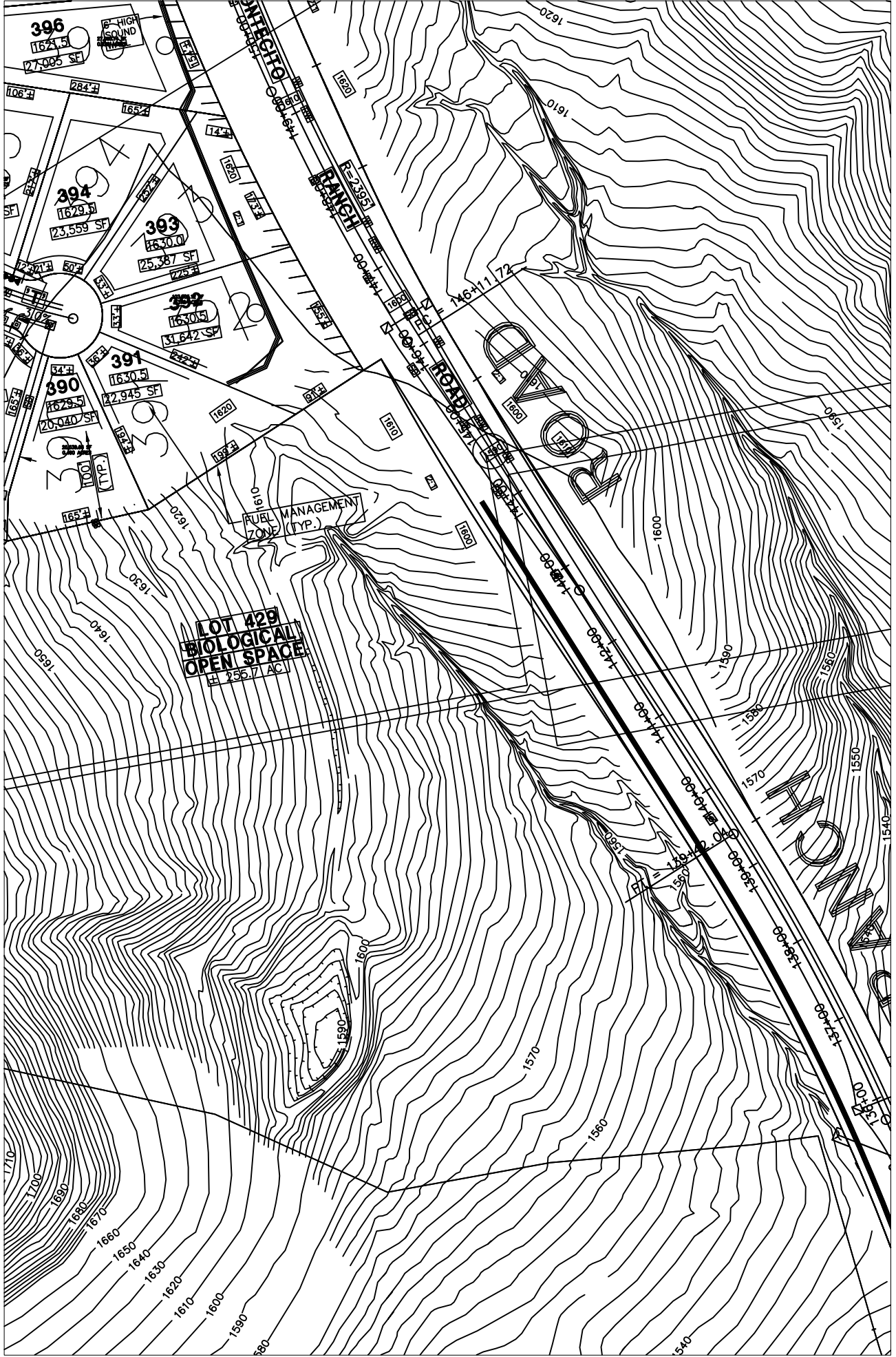
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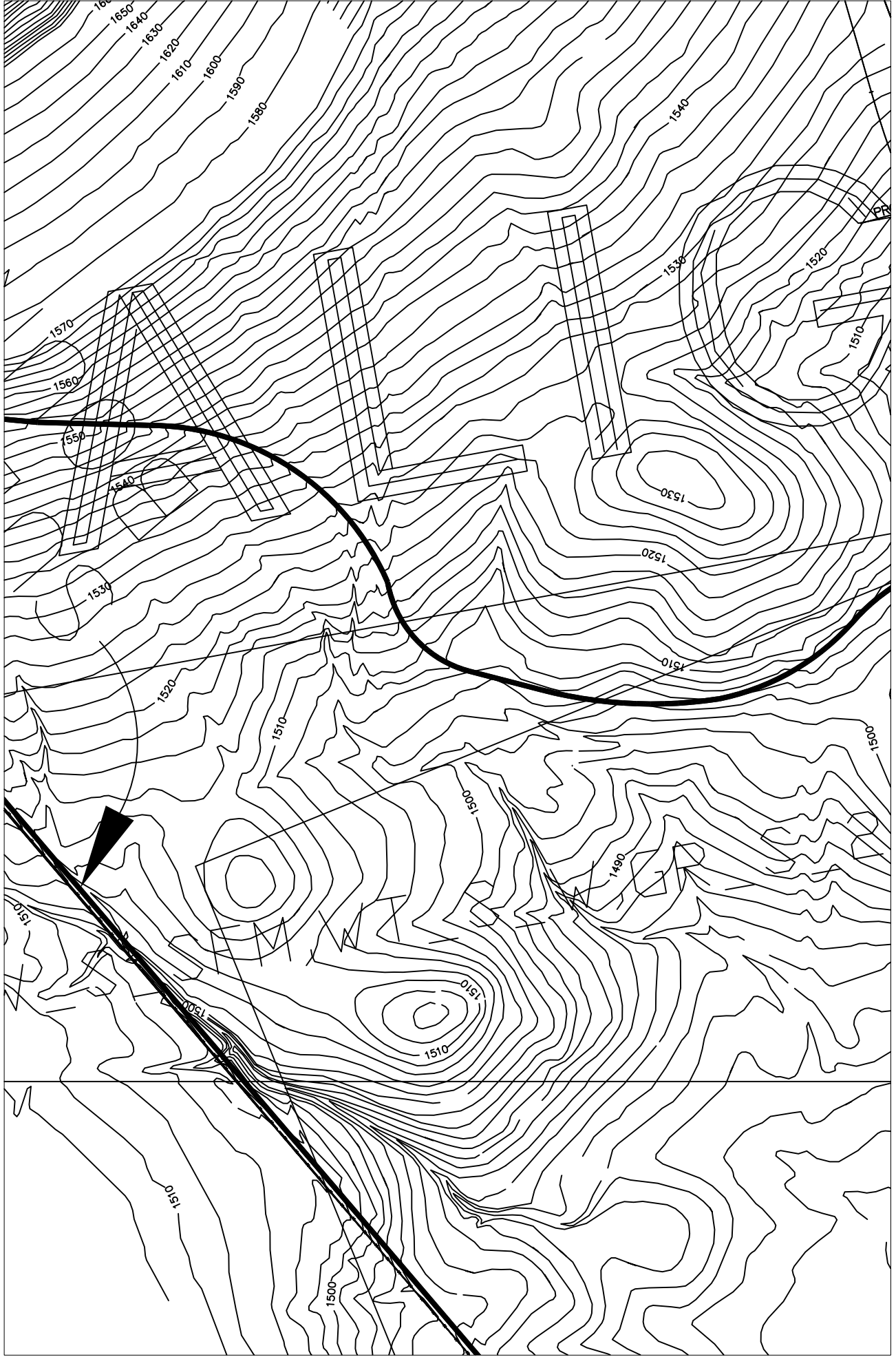
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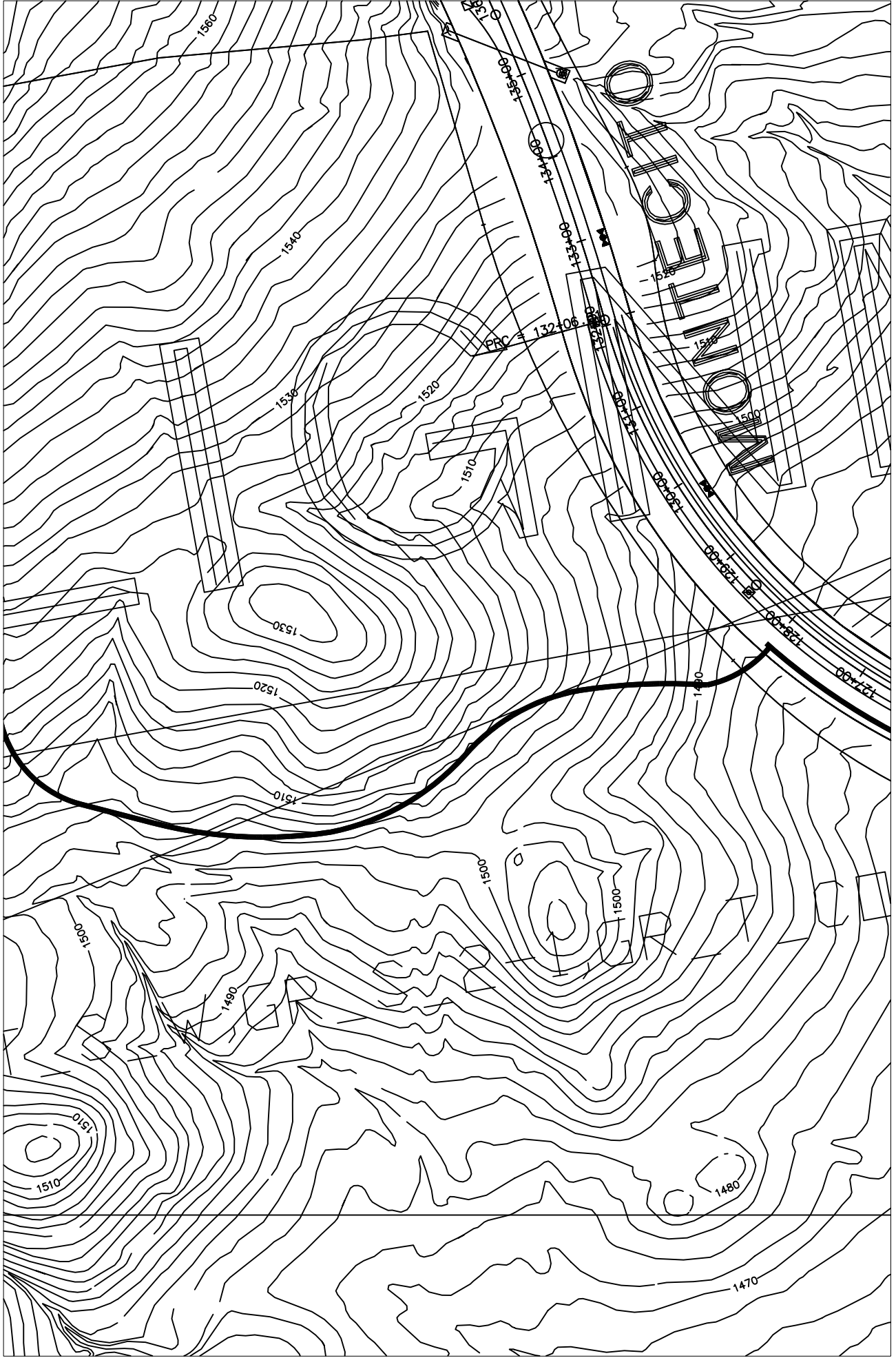
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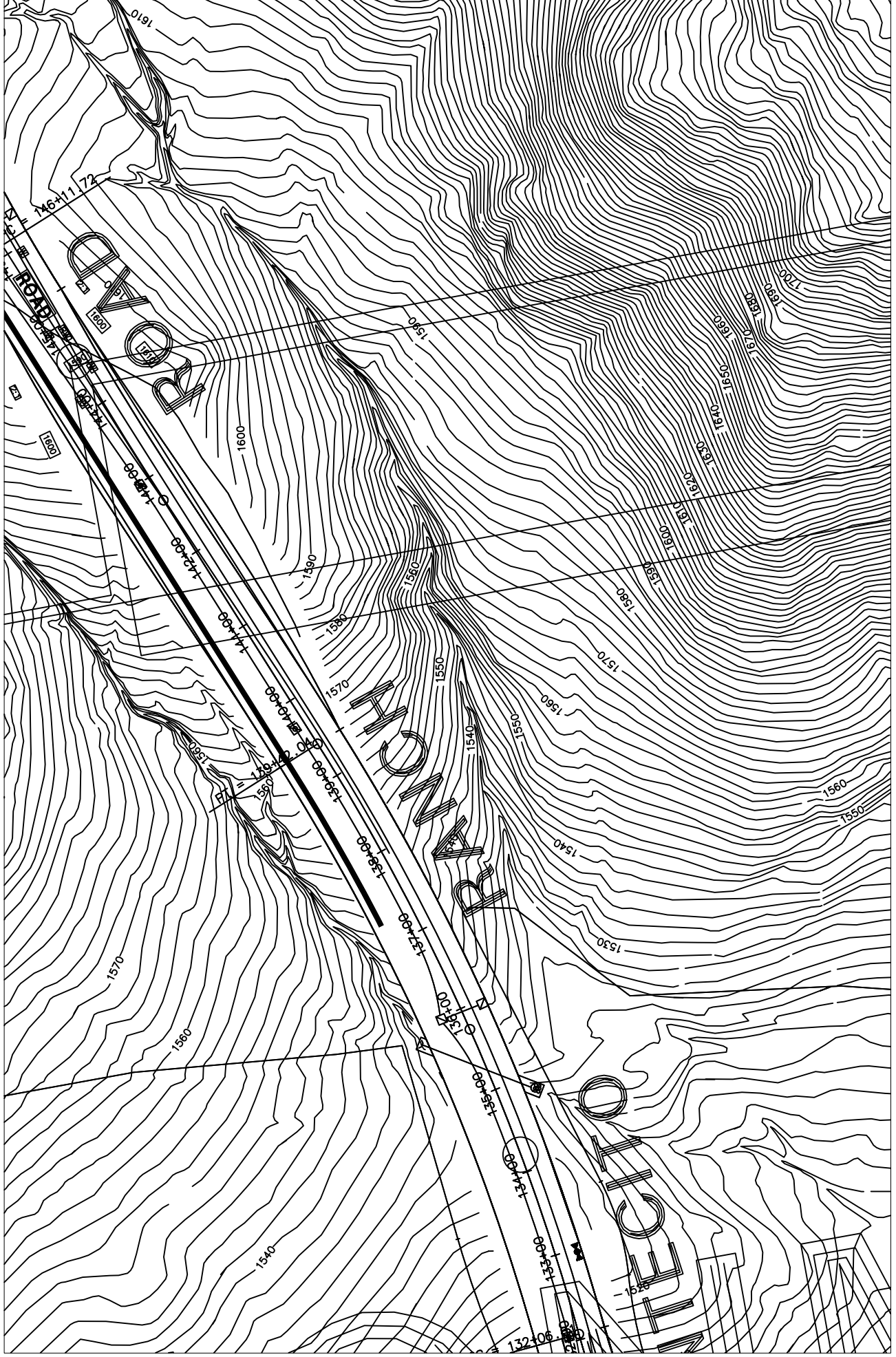
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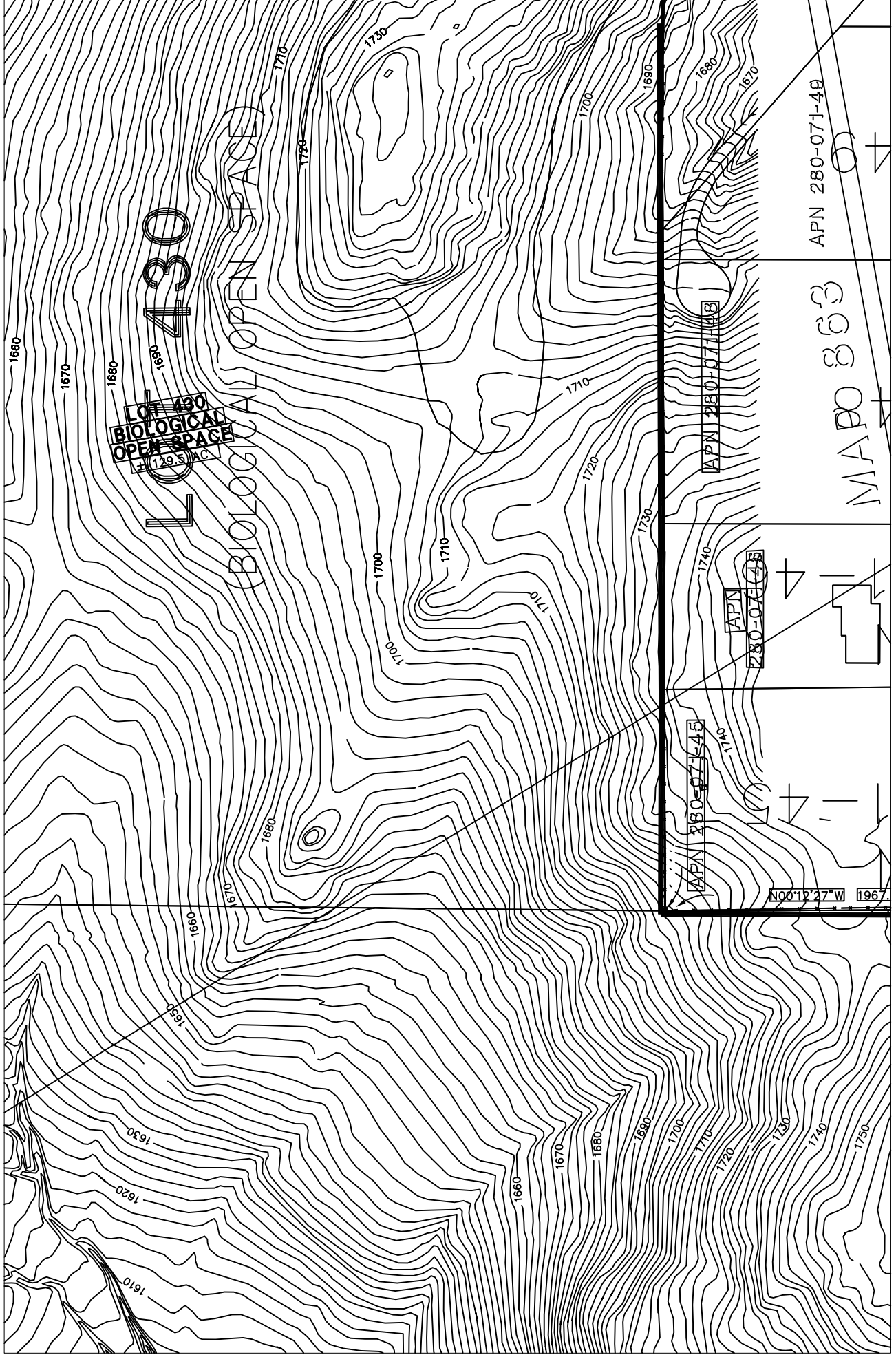
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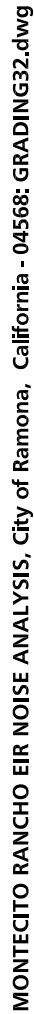


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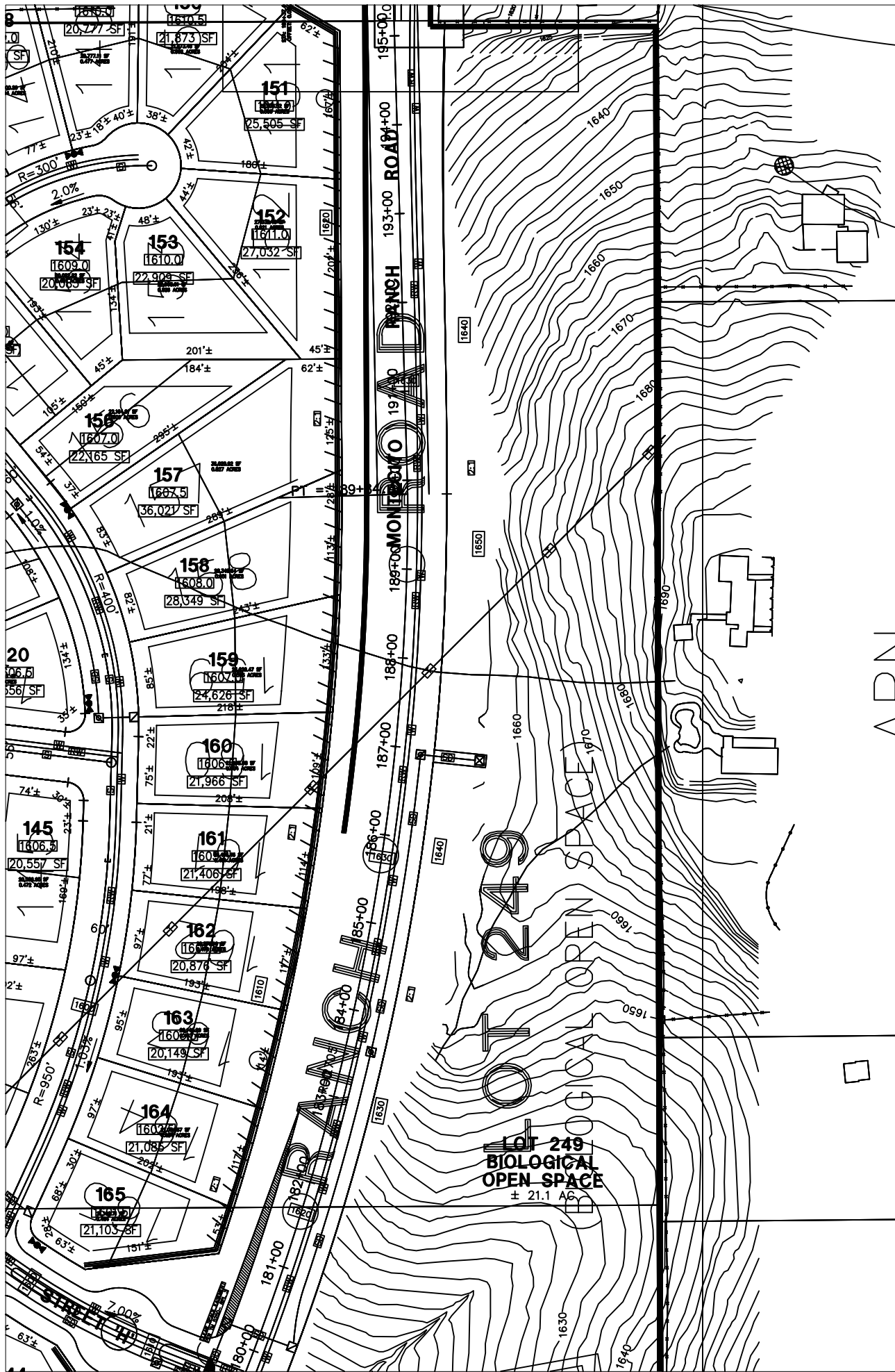


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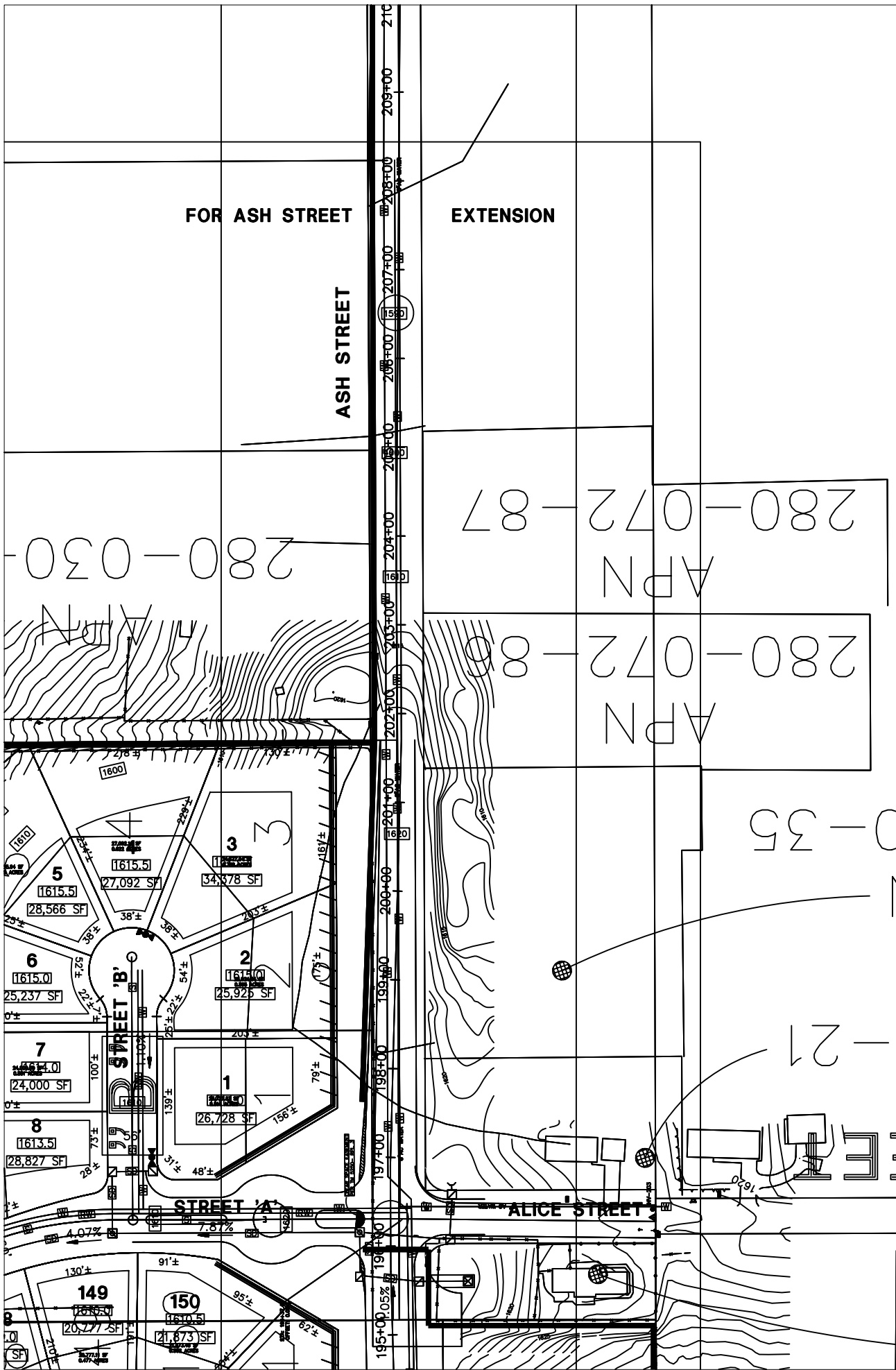




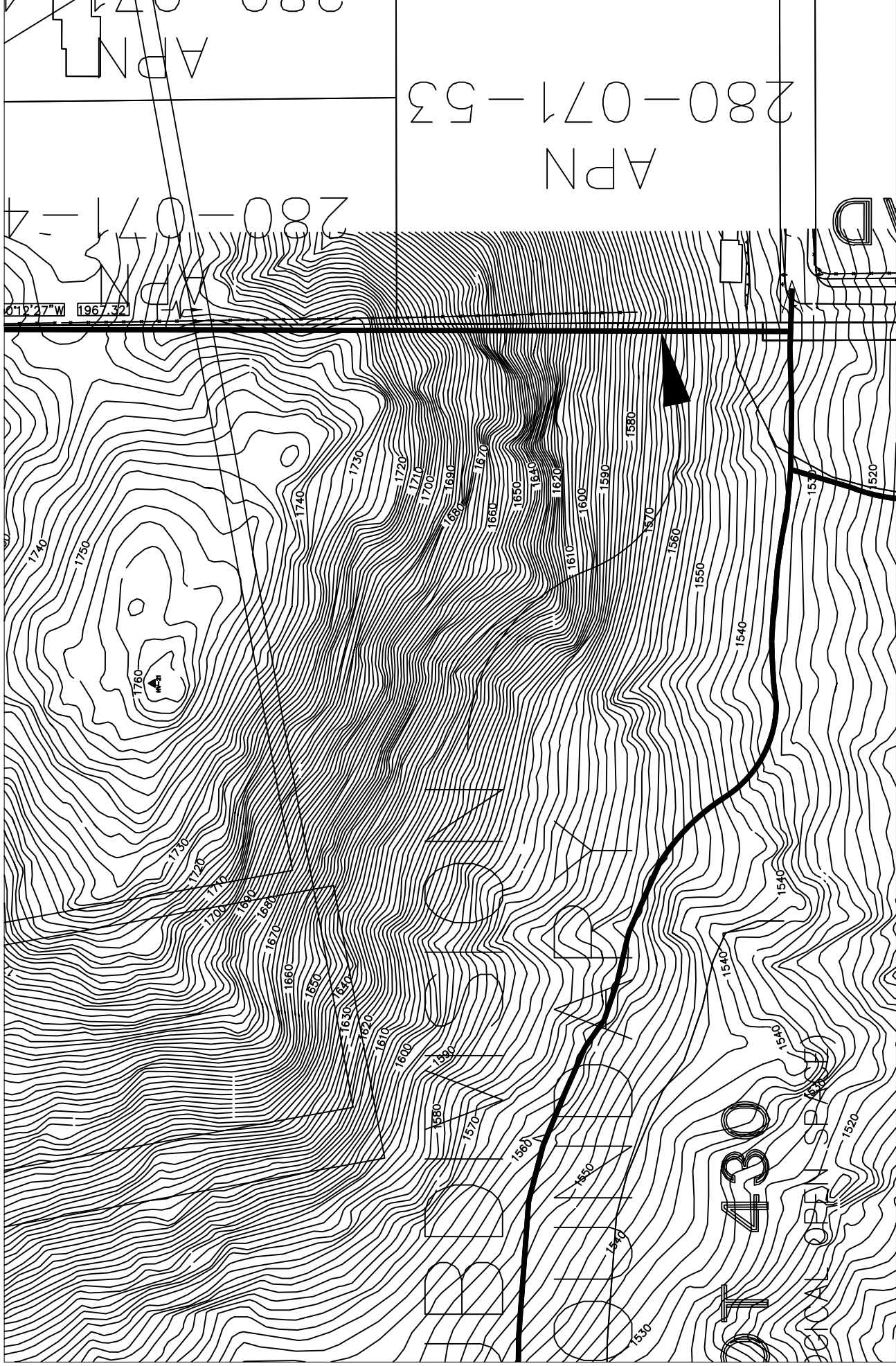
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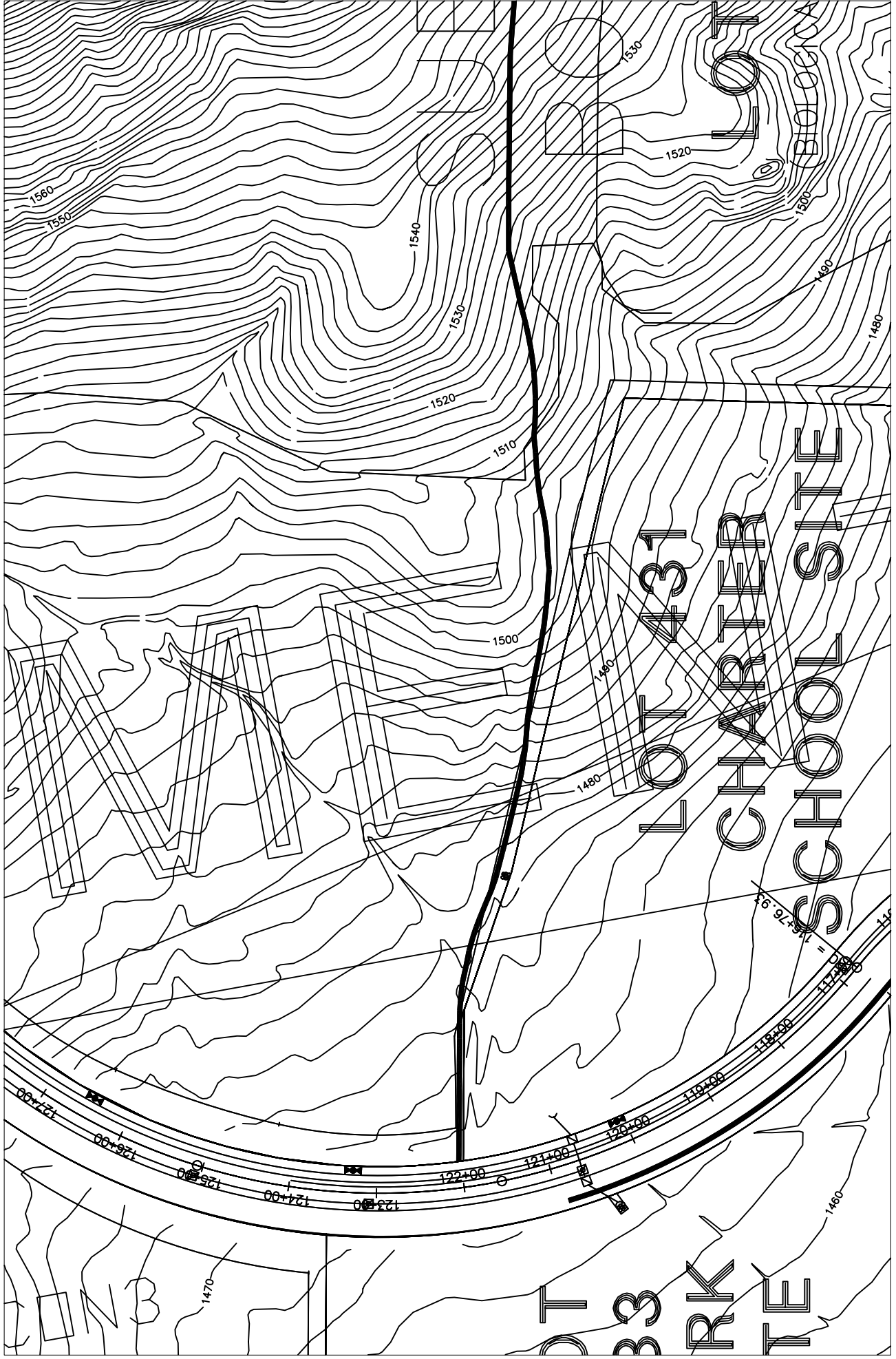
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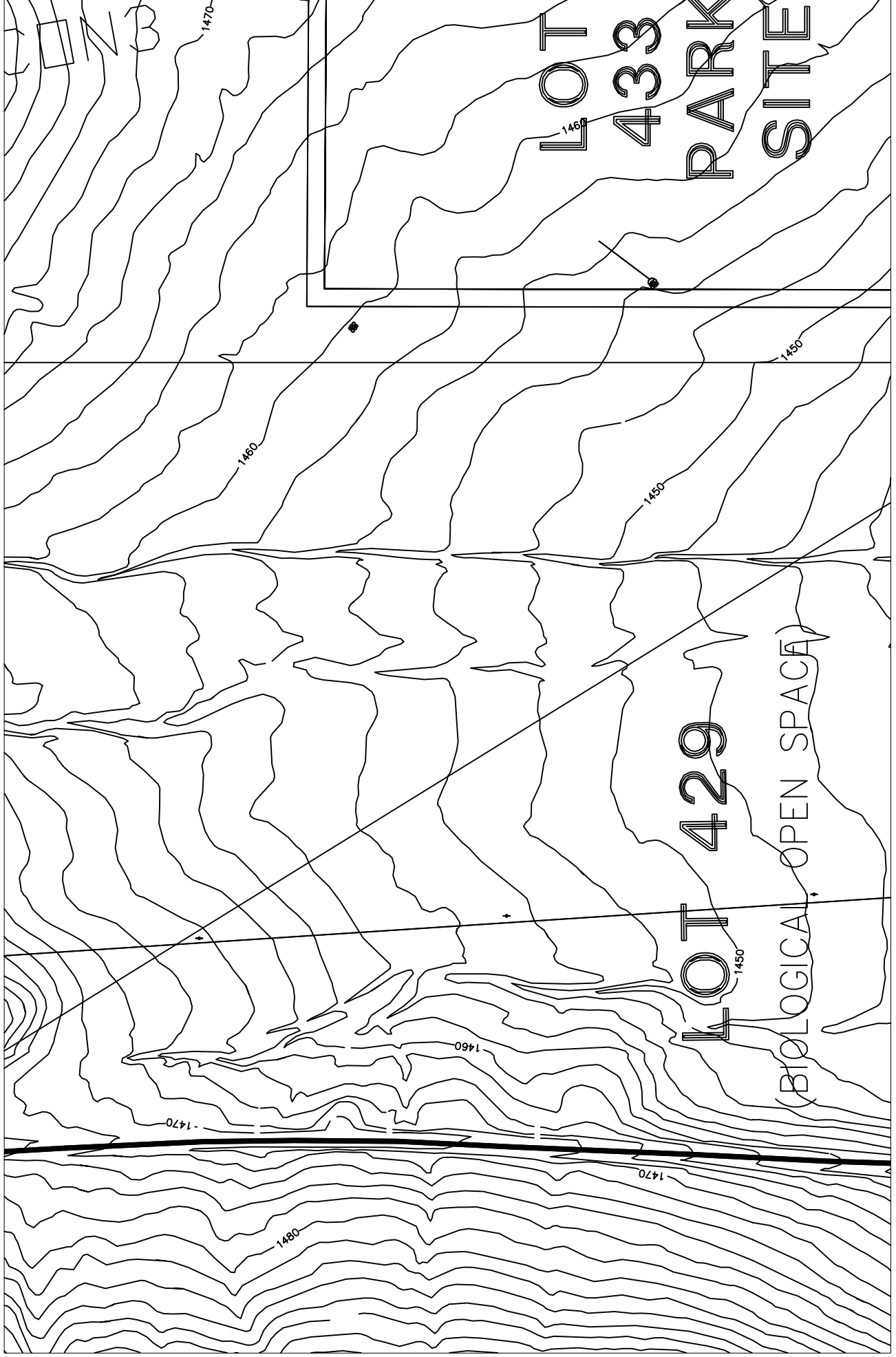
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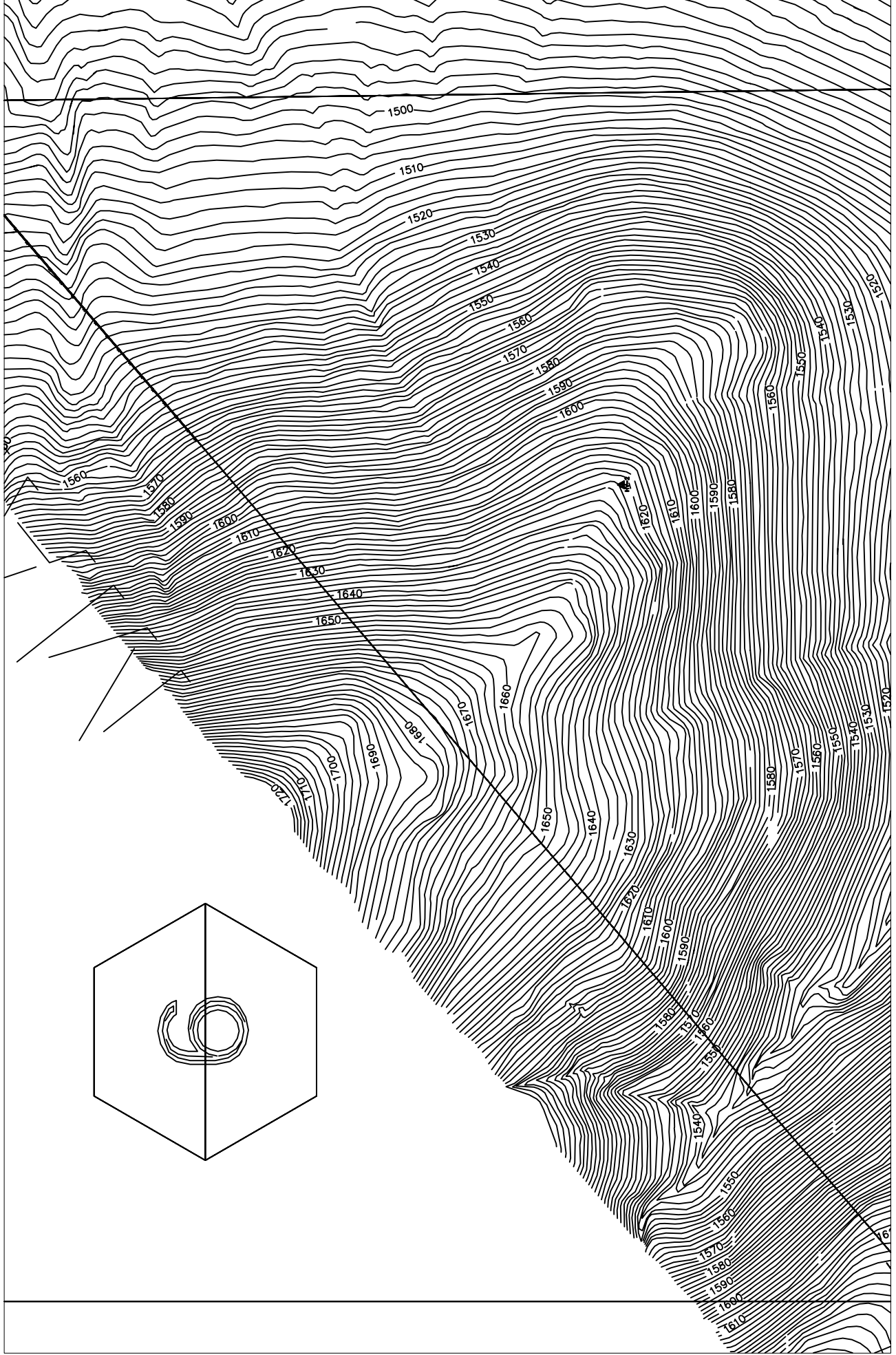
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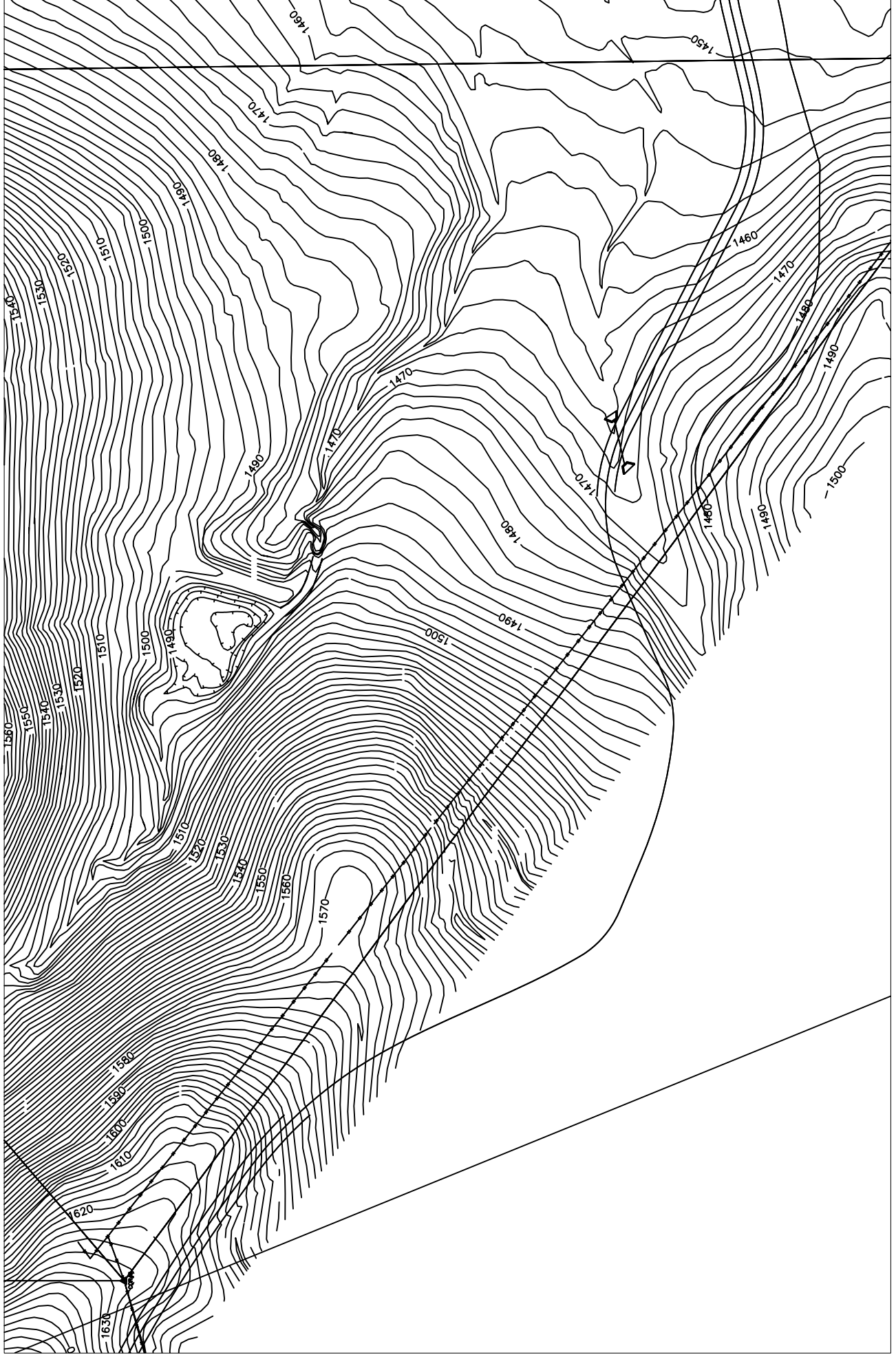
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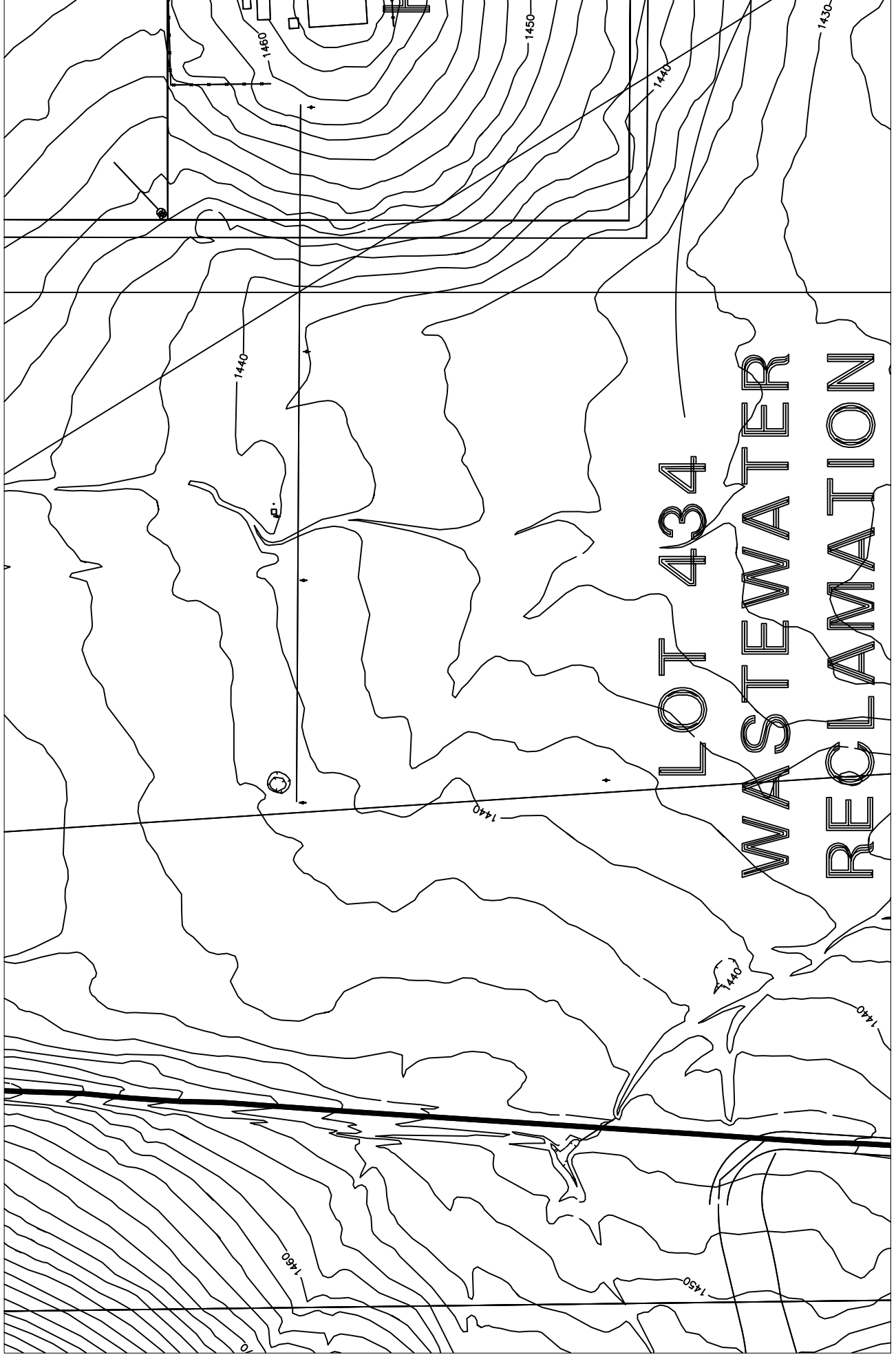
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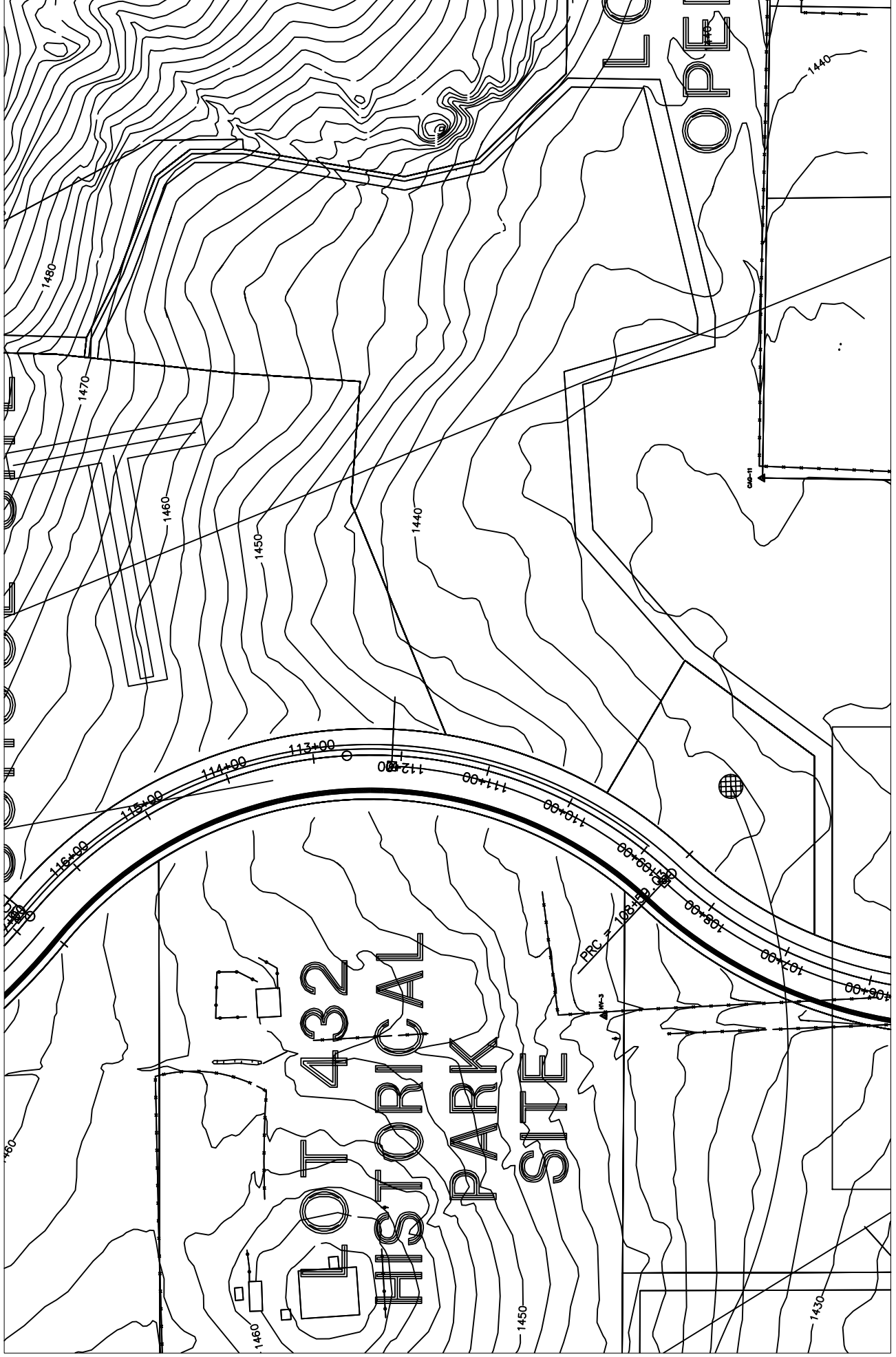
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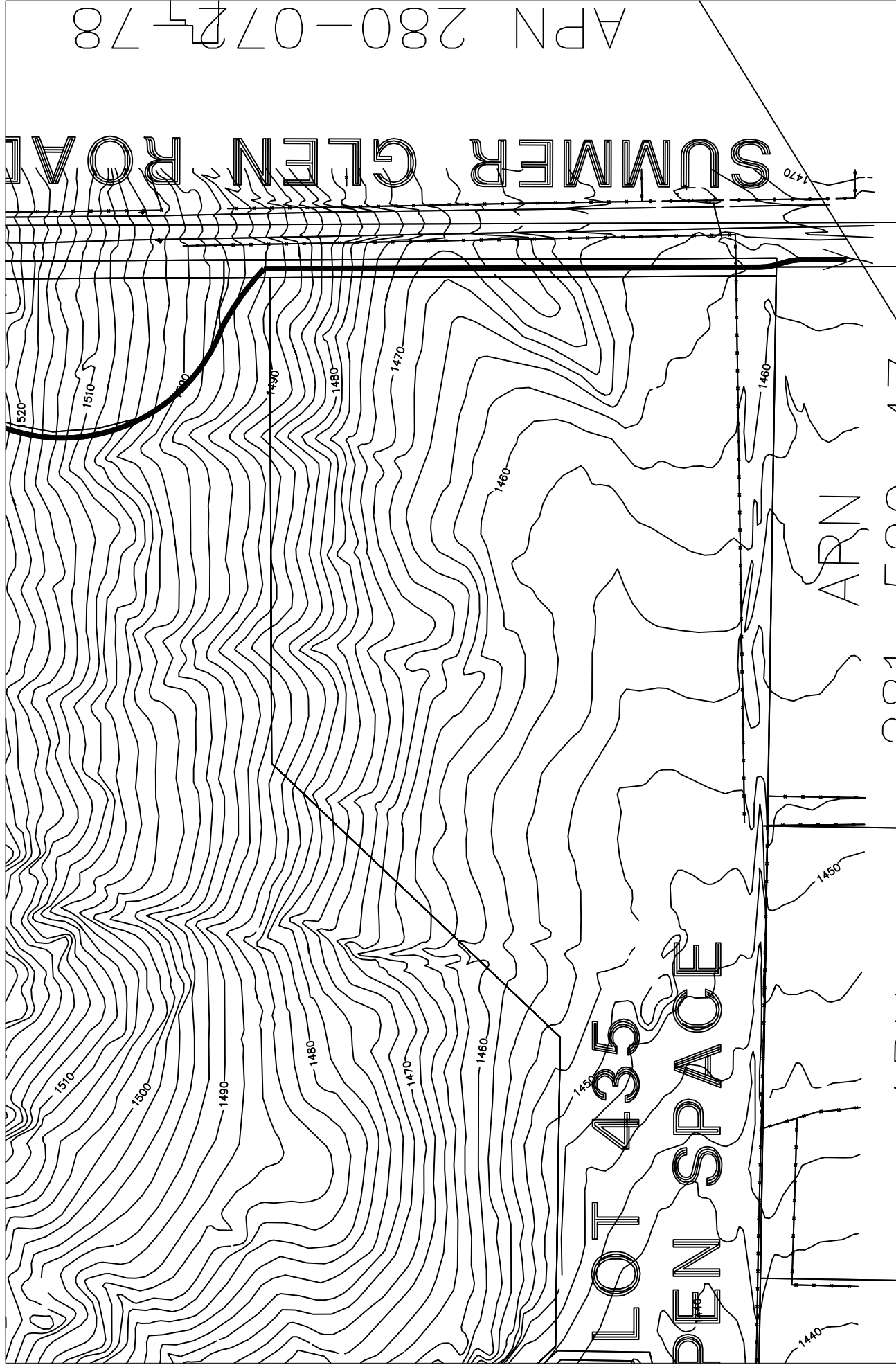


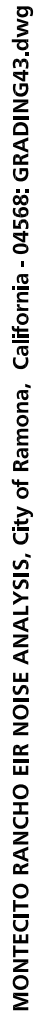
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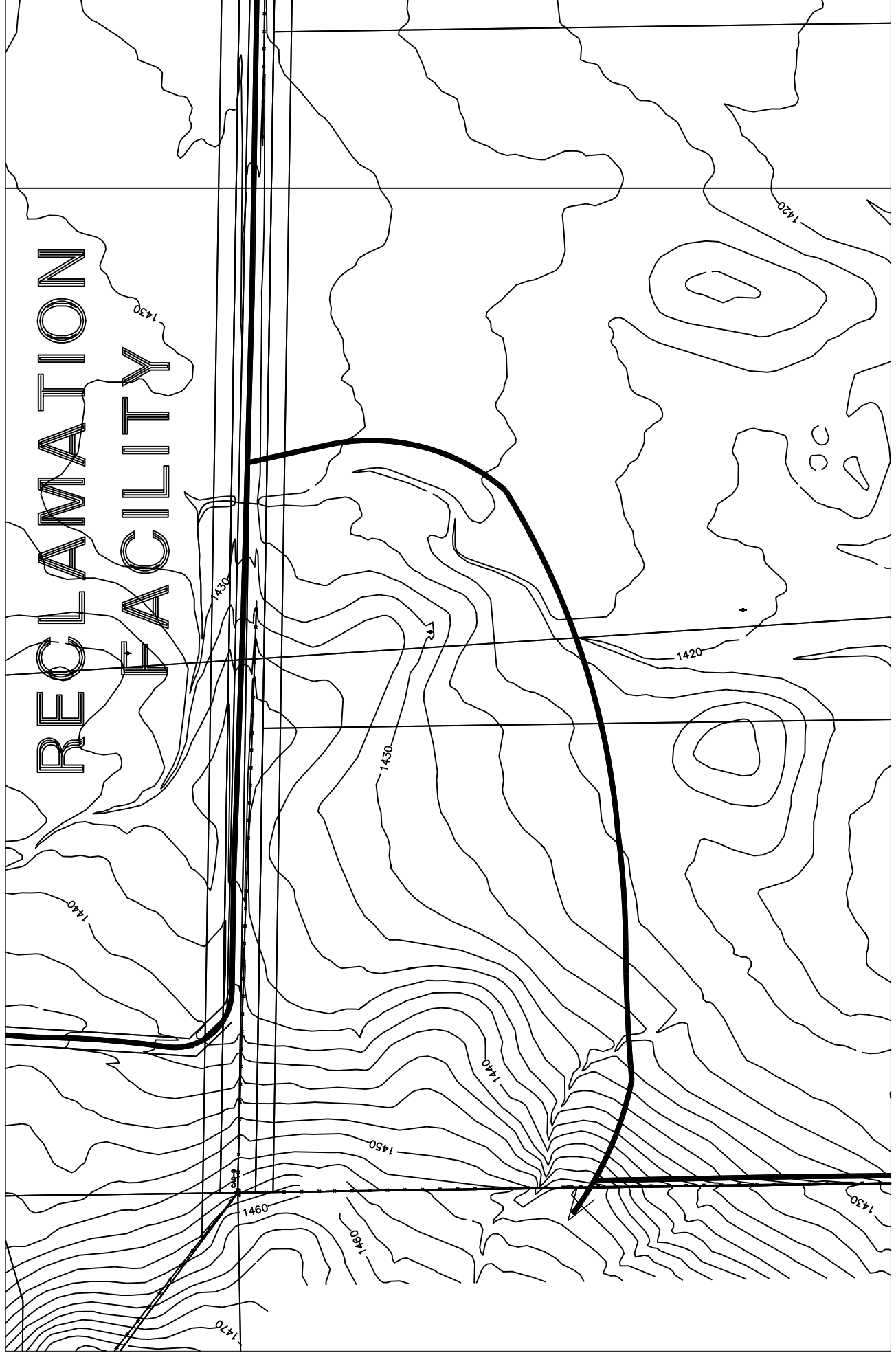
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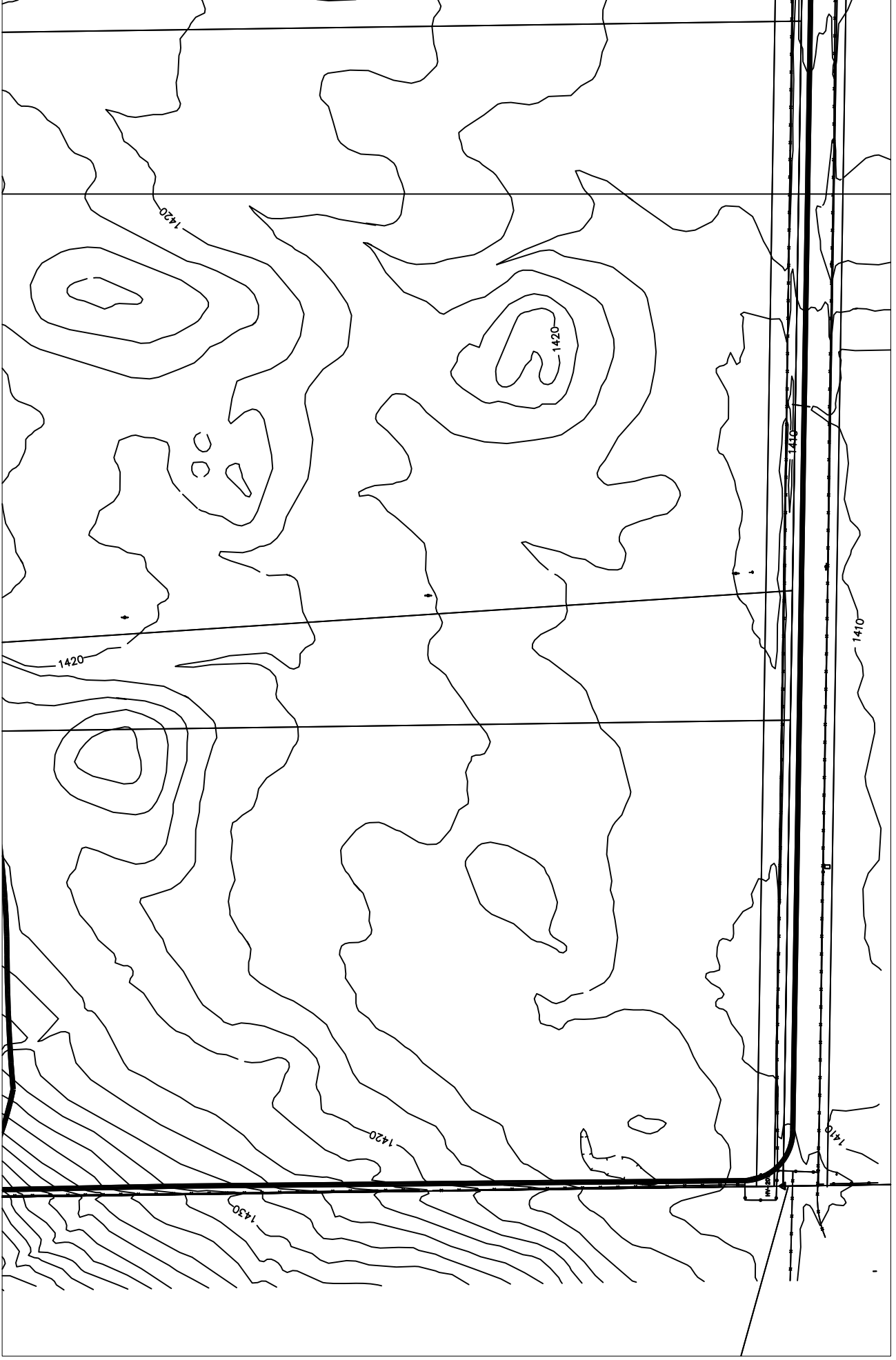




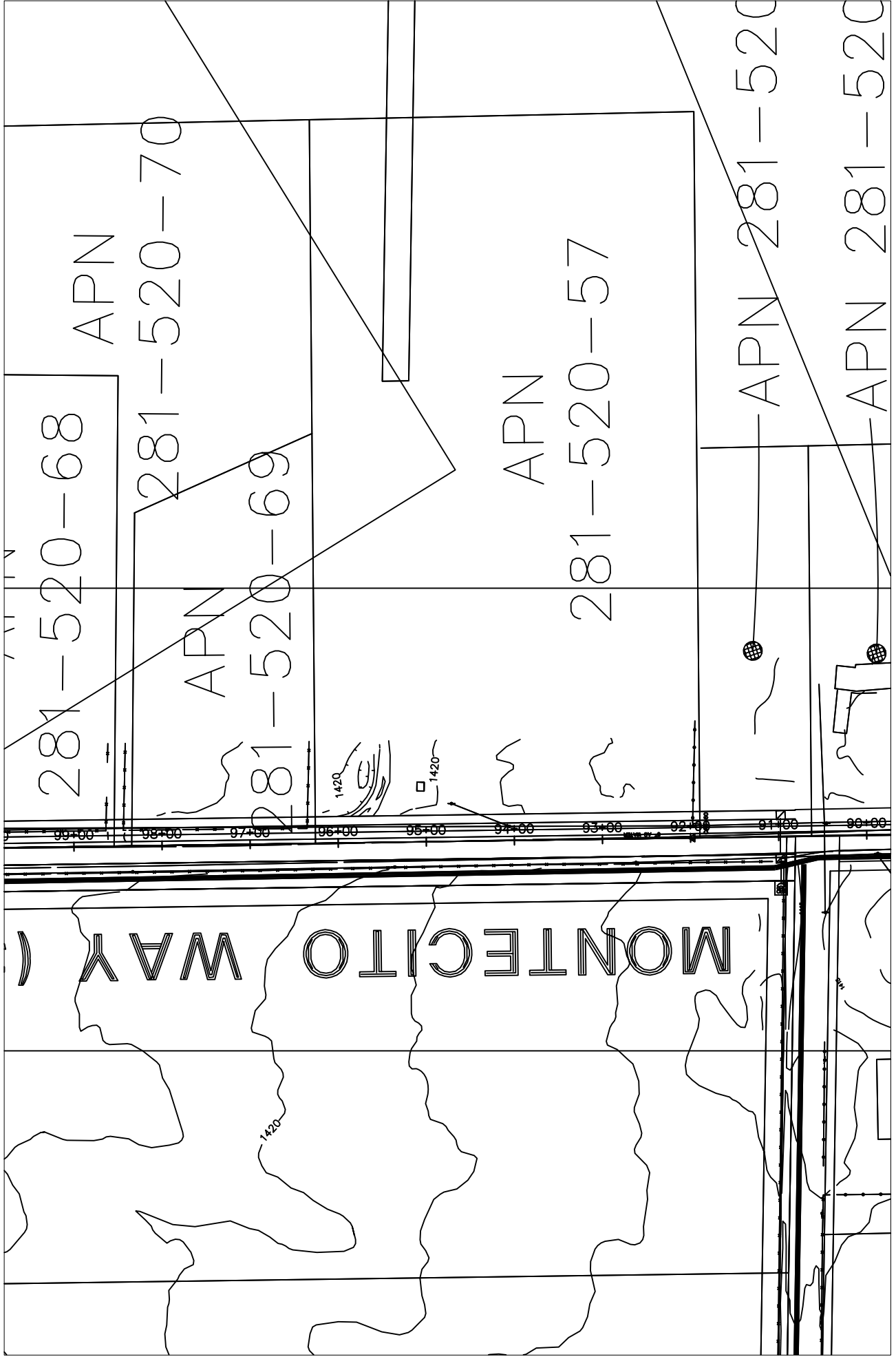
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## **APPENDIX C**

### **NOISE CONTOUR MODEL INPUTS AND CALCULATIONS**

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: SR-78  
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA     |                | NOISE MODEL INPUTS                            |     |         |       |       |  |
|------------------------------|----------------|---|-----|---------|-------|-------|--|
| <b>Highway Data</b>          |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |  |
| Average Daily Traffic (Adt): | 9,700 vehicles | Autos: 10                                     |     |         |       |       |  |
| Peak Hour Percentage:        | 10%            | Medium Trucks (2 Axles): 10                   |     |         |       |       |  |
| Peak Hour Volume:            | 970 vehicles   | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |  |
| Vehicle Speed:               | 40 mph         | <b>Vehicle Mix</b>                            |     |         |       |       |  |
| Near/Far Lane Distance:      | 12 feet        |   |     |         |       |       |  |
| <b>Site Data</b>             |                | VehicleType                                   | Day | Evening | Night | Daily |  |
|                              |                | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |  |
|                              |                | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |  |
|                              |                | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |  |
|                              |                | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |  |
|                              |                | Autos: 0.000                                  |     |         |       |       |  |
|                              |                | Medium Trucks: 2.297                          |     |         |       |       |  |
|                              |                | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |  |
|                              |                | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |  |
|                              |                | Autos: 109.950                                |     |         |       |       |  |
| Medium Trucks: 109.869       |                |   |     |         |       |       |  |
| Heavy Trucks: 109.877        |                |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -1.73        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -15.44       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -18.45       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 61.3          | 59.5    | 55.0        | 52.9      | 60.9 | 61.1 |
| Medium Trucks: | 58.8          | 57.0    | 52.5        | 50.4      | 58.4 | 58.6 |
| Heavy Trucks:  | 61.1          | 59.3    | 54.7        | 52.7      | 60.6 | 60.9 |
| Vehicle Noise: | 65.3          | 63.5    | 59.0        | 56.9      | 64.9 | 65.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 34     | 106    | 336    | 1,063  |
| CNEL: | 36     | 114    | 360    | 1,137  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: SR-78  
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 10,200 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,020 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -1.51        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -15.22       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -18.23       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 61.5          | 59.8    | 55.2        | 53.1      | 61.1 | 61.4 |
| Medium Trucks: | 59.0          | 57.2    | 52.7        | 50.6      | 58.6 | 58.9 |
| Heavy Trucks:  | 61.3          | 59.5    | 55.0        | 52.9      | 60.8 | 61.1 |
| Vehicle Noise: | 65.5          | 63.7    | 59.2        | 57.1      | 65.1 | 65.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 35     | 112    | 353    | 1,118  |
| CNEL: | 38     | 120    | 378    | 1,196  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: SR-78  
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 10,700 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,070 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -1.30        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -15.01       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -18.02       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 61.7          | 60.0    | 55.4        | 53.3      | 61.3 | 61.6 |
| Medium Trucks: | 59.2          | 57.5    | 52.9        | 50.8      | 58.8 | 59.1 |
| Heavy Trucks:  | 61.5          | 59.7    | 55.2        | 53.1      | 61.0 | 61.3 |
| Vehicle Noise: | 65.7          | 64.0    | 59.4        | 57.3      | 65.3 | 65.6 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 37     | 117    | 371    | 1,173  |
| CNEL: | 40     | 125    | 397    | 1,254  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: 10th St.  
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 7,000 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 700 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -3.10        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -16.85       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -22.87       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 59.9          | 58.2    | 53.6        | 51.5      | 59.5 | 59.8 |
| Medium Trucks: | 57.4          | 55.6    | 51.1        | 49.0      | 56.9 | 57.2 |
| Heavy Trucks:  | 56.6          | 54.9    | 50.3        | 48.2      | 56.2 | 56.5 |
| Vehicle Noise: | 63.0          | 61.2    | 56.7        | 54.6      | 62.5 | 62.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 20     | 63     | 198    | 626    |
| CNEL: | 21     | 67     | 212    | 669    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-78)  
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 23,300 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 2,330 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 0.70         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -13.01       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -16.03       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 69.0          | 67.2    | 62.7        | 60.6      | 68.5 | 68.8 |
| Medium Trucks: | 65.9          | 64.1    | 59.6        | 57.5      | 65.5 | 65.8 |
| Heavy Trucks:  | 66.9          | 65.1    | 60.6        | 58.5      | 66.4 | 66.7 |
| Vehicle Noise: | 72.2          | 70.5    | 65.9        | 63.8      | 71.8 | 72.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 166    | 525    | 1,660  | 5,248  |
| CNEL: | 178    | 561    | 1,775  | 5,614  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 29,500 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 2,950 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 1.72         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -11.99       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -15.00       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 70.0          | 68.2    | 63.7        | 61.6      | 69.6 | 69.9 |
| Medium Trucks: | 66.9          | 65.2    | 60.6        | 58.5      | 66.5 | 66.8 |
| Heavy Trucks:  | 67.9          | 66.1    | 61.6        | 59.5      | 67.5 | 67.8 |
| Vehicle Noise: | 73.2          | 71.5    | 66.9        | 64.8      | 72.8 | 73.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 210    | 664    | 2,101  | 6,645  |
| CNEL: | 225    | 711    | 2,248  | 7,108  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |
|--|--|---|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt): 27,300 vehicles |  | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume: 2,730 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed: 55 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 1.38         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -12.33       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -15.34       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 69.7          | 67.9    | 63.4        | 61.3      | 69.2 | 69.5 |
| Medium Trucks: | 66.6          | 64.8    | 60.3        | 58.2      | 66.2 | 66.4 |
| Heavy Trucks:  | 67.6          | 65.8    | 61.3        | 59.2      | 67.1 | 67.4 |
| Vehicle Noise: | 72.9          | 71.2    | 66.6        | 64.5      | 72.5 | 72.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 194    | 615    | 1,945  | 6,149  |
| CNEL: | 208    | 658    | 2,080  | 6,578  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: Hunter St.-Boundary Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 27,000 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 2,700 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.72         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -10.99       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.00       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.7          | 64.0    | 59.4        | 57.3      | 65.3 | 65.6 |
| Medium Trucks: | 63.2          | 61.5    | 56.9        | 54.8      | 62.8 | 63.1 |
| Heavy Trucks:  | 65.5          | 63.7    | 59.2        | 57.1      | 65.1 | 65.4 |
| Vehicle Noise: | 69.7          | 68.0    | 63.4        | 61.3      | 69.3 | 69.6 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 94     | 296    | 936    | 2,959  |
| CNEL: | 100    | 317    | 1,001  | 3,165  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: Boundary Rd. - Highland Valley R

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |
|--|--|---|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt): 27,000 vehicles |  | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume: 2,700 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed: 40 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.72         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -10.99       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.00       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.7          | 64.0    | 59.4        | 57.3      | 65.3 | 65.6 |
| Medium Trucks: | 63.2          | 61.5    | 56.9        | 54.8      | 62.8 | 63.1 |
| Heavy Trucks:  | 65.5          | 63.7    | 59.2        | 57.1      | 65.1 | 65.4 |
| Vehicle Noise: | 69.7          | 68.0    | 63.4        | 61.3      | 69.3 | 69.6 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 94     | 296    | 936    | 2,959  |
| CNEL: | 100    | 317    | 1,001  | 3,165  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  |  |  | NOISE MODEL INPUTS                            |  |         |         |                       |        |
|--|--|--|--|---|--|---------|---------|-----------------------|--------|
| <b>Highway Data</b>                          |  |  |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |  |         |         |                       |        |
| Average Daily Traffic (Adt): 24,000 vehicles |  |  |  | Autos: 10                                     |  |         |         |                       |        |
| Peak Hour Percentage: 10%                    |  |  |  | Medium Trucks (2 Axles): 10                   |  |         |         |                       |        |
| Peak Hour Volume: 2,400 vehicles             |  |  |  | Heavy Trucks (3+ Axles): 10                   |  |         |         |                       |        |
| Vehicle Speed: 40 mph                        |  |  |  | <b>Vehicle Mix</b>                            |  |         |         |                       |        |
| Near/Far Lane Distance: 12 feet              |  |  |  |   |  |         |         |                       |        |
| <b>Site Data</b>                             |  |  |  | VehicleType                                   |  | Day     | Evening | Night                 | Daily  |
|  |  |  |  | Autos:  |  | 80.0%   | 7.0%    | 13.0%                 | 94.00% |
|  |  |  |  | Medium Trucks:                                |  | 80.0%   | 7.0%    | 13.0%                 | 4.00%  |
|  |  |  |  | Heavy Trucks:                                 |  | 80.0%   | 7.0%    | 13.0%                 | 2.00%  |
|  |  |  |  | <b>Noise Source Elevations (in feet)</b>      |  |         |         |                       |        |
|  |  |  |  | Autos:  |  | 0.000   |         |                       |        |
|  |  |  |  | Medium Trucks:                                |  | 2.297   |         |                       |        |
|  |  |  |  | Heavy Trucks:                                 |  | 8.006   |         | Grade Adjustment: 0.0 |        |
|  |  |  |  | <b>Lane Equivalent Distance (in feet)</b>     |  |         |         |                       |        |
|  |  |  |  | Autos:  |  | 109.950 |         |                       |        |
|  |  |  |  | Medium Trucks:                                |  | 109.869 |         |                       |        |
|  |  |  |  | Heavy Trucks:                                 |  | 109.877 |         |                       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.21         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -11.50       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.51       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.2          | 63.5    | 58.9        | 56.8      | 64.8 | 65.1 |
| Medium Trucks: | 62.7          | 61.0    | 56.4        | 54.3      | 62.3 | 62.6 |
| Heavy Trucks:  | 65.0          | 63.2    | 58.7        | 56.6      | 64.6 | 64.8 |
| Vehicle Noise: | 69.2          | 67.5    | 62.9        | 60.8      | 68.8 | 69.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 83     | 263    | 832    | 2,630  |
| CNEL: | 89     | 281    | 890    | 2,813  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Main St. (SR-67)  
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 25,000 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 2,500 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.38         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -11.33       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.34       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.4          | 63.6    | 59.1        | 57.0      | 65.0 | 65.3 |
| Medium Trucks: | 62.9          | 61.1    | 56.6        | 54.5      | 62.5 | 62.8 |
| Heavy Trucks:  | 65.2          | 63.4    | 58.8        | 56.8      | 64.7 | 65.0 |
| Vehicle Noise: | 69.4          | 67.6    | 63.1        | 61.0      | 69.0 | 69.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 87     | 274    | 866    | 2,740  |
| CNEL: | 93     | 293    | 927    | 2,931  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Way  
 Road Segment: Montecito Ranch Rd - Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |                 | NOISE MODEL INPUTS                            |     |         |       |       |
|--------------------------------|-----------------|---|-----|---------|-------|-------|
| <b>Highway Data</b>            |                 | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt):   | 600 vehicles    | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage:          | 10%             | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume:              | 60 vehicles     | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed:                 | 40 mph          | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance:        | 12 feet         | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>               |                 | Autos: 80.0% 7.0% 13.0% 95.00%                |     |         |       |       |
| <b>Barrier Height:</b>         | <b>0.0 feet</b> | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): | 0.0             | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%          |     |         |       |       |
| Centerline Dist. to Barrier:   | 100.0 feet      | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer:  | 110.0 feet      | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer:  | 10.0 feet       | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad):   | 5.0 feet        | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation:                 | 0.0 feet        | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation:                | 0.0 feet        | Autos: 109.950                                |     |         |       |       |
| Road Grade:                    | 0.0%            | Medium Trucks: 109.869                        |     |         |       |       |
| Left View:                     | -90.0 degrees   | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View:                    | 90.0 degrees    |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -13.77       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -27.52       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -33.54       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 49.3          | 47.5    | 42.9        | 40.9      | 48.8 | 49.1 |
| Medium Trucks: | 46.7          | 44.9    | 40.4        | 38.3      | 46.3 | 46.6 |
| Heavy Trucks:  | 46.0          | 44.2    | 39.6        | 37.6      | 45.5 | 45.8 |
| Vehicle Noise: | 52.3          | 50.6    | 46.0        | 43.9      | 51.9 | 52.2 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 2      | 5      | 17     | 54     |
| CNEL: | 2      | 6      | 18     | 57     |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Way  
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |               | NOISE MODEL INPUTS                            |         |                        |       |        |
|---------------------------------|---------------|---|---------|------------------------|-------|--------|
| <b>Highway Data</b>             |               | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                        |       |        |
| Average Daily Traffic (Adt):    | 0 vehicles    | Autos: 10                                     |         |                        |       |        |
| Peak Hour Percentage:           | 10%           | Medium Trucks (2 Axles): 10                   |         |                        |       |        |
| Peak Hour Volume:               | 0 vehicles    | Heavy Trucks (3+ Axles): 10                   |         |                        |       |        |
| Vehicle Speed:                  | 40 mph        | <b>Vehicle Mix</b>                            |         |                        |       |        |
| Near/Far Lane Distance:         | 12 feet       |   |         |                        |       |        |
| <b>Site Data</b>                |               | VehicleType                                   | Day     | Evening                | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |               | Autos:  | 80.0%   | 7.0%                   | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0           | Medium Trucks:                                | 80.0%   | 7.0%                   | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet    | Heavy Trucks:                                 | 80.0%   | 7.0%                   | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet    | <b>Noise Source Elevations (in feet)</b>      |         |                        |       |        |
| Barrier Distance to Observer:   | 10.0 feet     |   |         |                        |       |        |
| Observer Height (Above Pad):    | 5.0 feet      | Autos:  | 0.000   | Grade Adjustment: 0.0  |       |        |
| Pad Elevation:                  | 0.0 feet      | Medium Trucks:                                | 2.297   |                        |       |        |
| Road Elevation:                 | 0.0 feet      | Heavy Trucks:                                 | 8.006   |                        |       |        |
| Road Grade:                     | 0.0%          | <b>Lane Equivalent Distance (in feet)</b>     |         |                        |       |        |
| Left View:                      | -90.0 degrees |   |         |                        |       |        |
| Right View:                     | 90.0 degrees  | Autos:  | 109.950 | Medium Trucks: 109.869 |       |        |
|                                 |               | Heavy Trucks:                                 | 109.877 |                        |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -51.55       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -65.31       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -71.33       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 11.5          | 9.7     | 5.2         | 3.1       | 11.0 | 11.3 |
| Medium Trucks: | 8.9           | 7.2     | 2.6         | 0.5       | 8.5  | 8.8  |
| Heavy Trucks:  | 8.2           | 6.4     | 1.9         | -0.2      | 7.7  | 8.0  |
| Vehicle Noise: | 14.5          | 12.8    | 8.2         | 6.1       | 14.1 | 14.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 0      | 0      | 0      | 0      |
| CNEL: | 0      | 0      | 0      | 0      |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |               | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|---------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |               | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 0 vehicles    | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%           | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 0 vehicles    | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph        | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet       |   |         |                       |       |        |
| <b>Site Data</b>                |               | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |               | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0           | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet    | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet    | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet     |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet      | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet      | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet      | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%          | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees |   |         |                       |       |        |
| Right View:                     | 90.0 degrees  | Autos:  | 109.950 |                       |       |        |
|                                 |               | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |               | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -51.55       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -65.31       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -71.33       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 11.5          | 9.7     | 5.2         | 3.1       | 11.0 | 11.3 |
| Medium Trucks: | 8.9           | 7.2     | 2.6         | 0.5       | 8.5  | 8.8  |
| Heavy Trucks:  | 8.2           | 6.4     | 1.9         | -0.2      | 7.7  | 8.0  |
| Vehicle Noise: | 14.5          | 12.8    | 8.2         | 6.1       | 14.1 | 14.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 0      | 0      | 0      | 0      |
| CNEL: | 0      | 0      | 0      | 0      |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |               | NOISE MODEL INPUTS                            |         |                        |       |        |
|---------------------------------|---------------|---|---------|------------------------|-------|--------|
| <b>Highway Data</b>             |               | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                        |       |        |
| Average Daily Traffic (Adt):    | 0 vehicles    | Autos: 10                                     |         |                        |       |        |
| Peak Hour Percentage:           | 10%           | Medium Trucks (2 Axles): 10                   |         |                        |       |        |
| Peak Hour Volume:               | 0 vehicles    | Heavy Trucks (3+ Axles): 10                   |         |                        |       |        |
| Vehicle Speed:                  | 40 mph        | <b>Vehicle Mix</b>                            |         |                        |       |        |
| Near/Far Lane Distance:         | 12 feet       |   |         |                        |       |        |
| <b>Site Data</b>                |               | VehicleType                                   | Day     | Evening                | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |               | Autos:  | 80.0%   | 7.0%                   | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0           | Medium Trucks:                                | 80.0%   | 7.0%                   | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet    | Heavy Trucks:                                 | 80.0%   | 7.0%                   | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet    | <b>Noise Source Elevations (in feet)</b>      |         |                        |       |        |
| Barrier Distance to Observer:   | 10.0 feet     |   |         |                        |       |        |
| Observer Height (Above Pad):    | 5.0 feet      | Autos:  | 0.000   | Grade Adjustment: 0.0  |       |        |
| Pad Elevation:                  | 0.0 feet      | Medium Trucks:                                | 2.297   |                        |       |        |
| Road Elevation:                 | 0.0 feet      | Heavy Trucks:                                 | 8.006   |                        |       |        |
| Road Grade:                     | 0.0%          | <b>Lane Equivalent Distance (in feet)</b>     |         |                        |       |        |
| Left View:                      | -90.0 degrees | Autos:  | 109.950 | Medium Trucks: 109.869 |       |        |
| Right View:                     | 90.0 degrees  | Heavy Trucks:                                 | 109.877 |                        |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -51.55       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -65.31       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -71.33       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 11.5          | 9.7     | 5.2         | 3.1       | 11.0 | 11.3 |
| Medium Trucks: | 8.9           | 7.2     | 2.6         | 0.5       | 8.5  | 8.8  |
| Heavy Trucks:  | 8.2           | 6.4     | 1.9         | -0.2      | 7.7  | 8.0  |
| Vehicle Noise: | 14.5          | 12.8    | 8.2         | 6.1       | 14.1 | 14.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 0      | 0      | 0      | 0      |
| CNEL: | 0      | 0      | 0      | 0      |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Ash St.  
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |               | NOISE MODEL INPUTS                            |         |                        |       |        |
|---------------------------------|---------------|---|---------|------------------------|-------|--------|
| <b>Highway Data</b>             |               | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                        |       |        |
| Average Daily Traffic (Adt):    | 500 vehicles  | Autos: 10                                     |         |                        |       |        |
| Peak Hour Percentage:           | 10%           | Medium Trucks (2 Axles): 10                   |         |                        |       |        |
| Peak Hour Volume:               | 50 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                        |       |        |
| Vehicle Speed:                  | 40 mph        | <b>Vehicle Mix</b>                            |         |                        |       |        |
| Near/Far Lane Distance:         | 12 feet       |   |         |                        |       |        |
| <b>Site Data</b>                |               | VehicleType                                   | Day     | Evening                | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |               | Autos:  | 80.0%   | 7.0%                   | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0           | Medium Trucks:                                | 80.0%   | 7.0%                   | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet    | Heavy Trucks:                                 | 80.0%   | 7.0%                   | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet    | <b>Noise Source Elevations (in feet)</b>      |         |                        |       |        |
| Barrier Distance to Observer:   | 10.0 feet     |   |         |                        |       |        |
| Observer Height (Above Pad):    | 5.0 feet      | Autos:  | 0.000   | Grade Adjustment: 0.0  |       |        |
| Pad Elevation:                  | 0.0 feet      | Medium Trucks:                                | 2.297   |                        |       |        |
| Road Elevation:                 | 0.0 feet      | Heavy Trucks:                                 | 8.006   |                        |       |        |
| Road Grade:                     | 0.0%          | <b>Lane Equivalent Distance (in feet)</b>     |         |                        |       |        |
| Left View:                      | -90.0 degrees | Autos:  | 109.950 | Medium Trucks: 109.869 |       |        |
| Right View:                     | 90.0 degrees  | Heavy Trucks:                                 | 109.877 |                        |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -14.56       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -28.32       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -34.34       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 48.5          | 46.7    | 42.1        | 40.1      | 48.0 | 48.3 |
| Medium Trucks: | 45.9          | 44.2    | 39.6        | 37.5      | 45.5 | 45.8 |
| Heavy Trucks:  | 45.2          | 43.4    | 38.8        | 36.8      | 44.7 | 45.0 |
| Vehicle Noise: | 51.5          | 49.8    | 45.2        | 43.1      | 51.1 | 51.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 1      | 4      | 14     | 45     |
| CNEL: | 2      | 5      | 15     | 48     |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Ash St.  
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |               | NOISE MODEL INPUTS                            |         |                        |       |        |
|---------------------------------|---------------|---|---------|------------------------|-------|--------|
| <b>Highway Data</b>             |               | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                        |       |        |
| Average Daily Traffic (Adt):    | 500 vehicles  | Autos: 10                                     |         |                        |       |        |
| Peak Hour Percentage:           | 10%           | Medium Trucks (2 Axles): 10                   |         |                        |       |        |
| Peak Hour Volume:               | 50 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                        |       |        |
| Vehicle Speed:                  | 40 mph        | <b>Vehicle Mix</b>                            |         |                        |       |        |
| Near/Far Lane Distance:         | 12 feet       |   |         |                        |       |        |
| <b>Site Data</b>                |               | VehicleType                                   | Day     | Evening                | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |               | Autos:  | 80.0%   | 7.0%                   | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0           | Medium Trucks:                                | 80.0%   | 7.0%                   | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet    | Heavy Trucks:                                 | 80.0%   | 7.0%                   | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet    | <b>Noise Source Elevations (in feet)</b>      |         |                        |       |        |
| Barrier Distance to Observer:   | 10.0 feet     |   |         |                        |       |        |
| Observer Height (Above Pad):    | 5.0 feet      | Autos:  | 0.000   | Grade Adjustment: 0.0  |       |        |
| Pad Elevation:                  | 0.0 feet      | Medium Trucks:                                | 2.297   |                        |       |        |
| Road Elevation:                 | 0.0 feet      | Heavy Trucks:                                 | 8.006   |                        |       |        |
| Road Grade:                     | 0.0%          | <b>Lane Equivalent Distance (in feet)</b>     |         |                        |       |        |
| Left View:                      | -90.0 degrees |   |         |                        |       |        |
| Right View:                     | 90.0 degrees  | Autos:  | 109.950 | Medium Trucks: 109.869 |       |        |
|                                 |               | Heavy Trucks:                                 | 109.877 |                        |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -14.56       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -28.32       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -34.34       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 48.5          | 46.7    | 42.1        | 40.1      | 48.0 | 48.3 |
| Medium Trucks: | 45.9          | 44.2    | 39.6        | 37.5      | 45.5 | 45.8 |
| Heavy Trucks:  | 45.2          | 43.4    | 38.8        | 36.8      | 44.7 | 45.0 |
| Vehicle Noise: | 51.5          | 49.8    | 45.2        | 43.1      | 51.1 | 51.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 1      | 4      | 14     | 45     |
| CNEL: | 2      | 5      | 15     | 48     |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Rd.  
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA   |                | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|----------------|---|-----|---------|-------|-------|--|
| Highway Data   |                | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt):   | 3,500 vehicles | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage:  | 10%            | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume:  | 350 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed:   | 40 mph         | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance:  | 12 feet        |   |     |         |       |       |  |
| Site Data  |                | VehicleType                               | Day | Evening | Night | Daily |  |
| Barrier Height: 0.0 feet<br>Barrier Type (0-Wall, 1-Berm): 0.0<br>Centerline Dist. to Barrier: 100.0 feet<br>Centerline Dist. to Observer: 110.0 feet<br>Barrier Distance to Observer: 10.0 feet<br>Observer Height (Above Pad): 5.0 feet<br>Pad Elevation: 0.0 feet<br>Road Elevation: 0.0 feet<br>Road Grade: 0.0%<br>Left View: -90.0 degrees<br>Right View: 90.0 degrees |                | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |  |
|  |                | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
|  |                | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |  |
|  |                | Noise Source Elevations (in feet)         |     |         |       |       |  |
|  |                | Autos: 0.000                              |     |         |       |       |  |
|  |                | Medium Trucks: 2.297                      |     |         |       |       |  |
|  |                | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
|  |                | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
|  |                | Autos: 109.950                            |     |         |       |       |  |
|  |                | Medium Trucks: 109.869                    |     |         |       |       |  |
| Heavy Trucks: 109.877  |                |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -6.11        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -19.86       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -25.89       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 56.9          | 55.2    | 50.6        | 48.5      | 56.5 | 56.8 |
| Medium Trucks: | 54.4          | 52.6    | 48.0        | 46.0      | 53.9 | 54.2 |
| Heavy Trucks:  | 53.6          | 51.9    | 47.3        | 45.2      | 53.2 | 53.5 |
| Vehicle Noise: | 60.0          | 58.2    | 53.7        | 51.6      | 59.5 | 59.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 10     | 31     | 99     | 313    |
| CNEL: | 11     | 33     | 106    | 335    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing Conditions  
 Road Name: Montecito Rd.  
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 6,000 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 600 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -3.77        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -17.52       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -23.54       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 59.3          | 57.5    | 52.9        | 50.9      | 58.8 | 59.1 |
| Medium Trucks: | 56.7          | 54.9    | 50.4        | 48.3      | 56.3 | 56.6 |
| Heavy Trucks:  | 56.0          | 54.2    | 49.6        | 47.6      | 55.5 | 55.8 |
| Vehicle Noise: | 62.3          | 60.6    | 56.0        | 53.9      | 61.9 | 62.2 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 17     | 54     | 170    | 536    |
| CNEL: | 18     | 57     | 181    | 574    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: SR-78  
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 9,994 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 999 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 94.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 2.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -1.60        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -15.31       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -18.32       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 61.4          | 59.7    | 55.1        | 53.0      | 61.0 | 61.3 |
| Medium Trucks: | 58.9          | 57.2    | 52.6        | 50.5      | 58.5 | 58.8 |
| Heavy Trucks:  | 61.2          | 59.4    | 54.9        | 52.8      | 60.8 | 61.0 |
| Vehicle Noise: | 65.4          | 63.7    | 59.1        | 57.0      | 65.0 | 65.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 35     | 110    | 346    | 1,095  |
| CNEL: | 37     | 117    | 370    | 1,172  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: SR-78  
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 12,024 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,202 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -0.79        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -14.50       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -17.52       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 62.2          | 60.5    | 55.9        | 53.8      | 61.8 | 62.1 |
| Medium Trucks: | 59.7          | 58.0    | 53.4        | 51.3      | 59.3 | 59.6 |
| Heavy Trucks:  | 62.0          | 60.2    | 55.7        | 53.6      | 61.6 | 61.8 |
| Vehicle Noise: | 66.2          | 64.5    | 59.9        | 57.8      | 65.8 | 66.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 42     | 132    | 417    | 1,318  |
| CNEL: | 45     | 141    | 446    | 1,409  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: SR-78  
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 12,054 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,205 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -0.78        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -14.49       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -17.50       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 62.2          | 60.5    | 55.9        | 53.8      | 61.8 | 62.1 |
| Medium Trucks: | 59.7          | 58.0    | 53.4        | 51.3      | 59.3 | 59.6 |
| Heavy Trucks:  | 62.0          | 60.2    | 55.7        | 53.6      | 61.6 | 61.9 |
| Vehicle Noise: | 66.2          | 64.5    | 59.9        | 57.8      | 65.8 | 66.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 42     | 132    | 418    | 1,321  |
| CNEL: | 45     | 141    | 447    | 1,413  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: 10th St.  
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |                | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--------------------------------|----------------|---|-----|---------|-------|-------|--|
| Highway Data                   |                | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt):   | 7,647 vehicles | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage:          | 10%            | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume:              | 765 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed:                 | 40 mph         | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance:        | 12 feet        | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                      |                | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |  |
| Barrier Height:                | 0.0 feet       | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): | 0.0            | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier:   | 100.0 feet     | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer:  | 110.0 feet     | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer:  | 10.0 feet      | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad):   | 5.0 feet       | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation:                 | 0.0 feet       | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation:                | 0.0 feet       | Autos: 109.950                            |     |         |       |       |  |
| Road Grade:                    | 0.0%           | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View:                     | -90.0 degrees  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View:                    | 90.0 degrees   |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -2.71        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -16.47       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -22.49       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 60.3          | 58.5    | 54.0        | 51.9      | 59.9 | 60.2 |
| Medium Trucks: | 57.8          | 56.0    | 51.4        | 49.4      | 57.3 | 57.6 |
| Heavy Trucks:  | 57.0          | 55.3    | 50.7        | 48.6      | 56.6 | 56.9 |
| Vehicle Noise: | 63.4          | 61.6    | 57.0        | 55.0      | 62.9 | 63.2 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 22     | 68     | 216    | 683    |
| CNEL: | 23     | 73     | 231    | 731    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-78)  
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 23,594 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 2,359 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 0.75         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -12.96       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -15.97       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 69.0          | 67.3    | 62.7        | 60.6      | 68.6 | 68.9 |
| Medium Trucks: | 66.0          | 64.2    | 59.6        | 57.6      | 65.5 | 65.8 |
| Heavy Trucks:  | 66.9          | 65.2    | 60.6        | 58.5      | 66.5 | 66.8 |
| Vehicle Noise: | 72.3          | 70.5    | 66.0        | 63.9      | 71.8 | 72.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 168    | 531    | 1,681  | 5,315  |
| CNEL: | 180    | 569    | 1,798  | 5,685  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 30,206 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 3,021 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 1.82         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -11.89       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -14.90       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 70.1          | 68.4    | 63.8        | 61.7      | 69.7 | 70.0 |
| Medium Trucks: | 67.0          | 65.3    | 60.7        | 58.6      | 66.6 | 66.9 |
| Heavy Trucks:  | 68.0          | 66.2    | 61.7        | 59.6      | 67.6 | 67.9 |
| Vehicle Noise: | 73.4          | 71.6    | 67.0        | 64.9      | 72.9 | 73.2 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 215    | 680    | 2,152  | 6,804  |
| CNEL: | 230    | 728    | 2,302  | 7,279  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |  |
| Average Daily Traffic (Adt): 29,006 vehicles |  | Autos: 10                                     |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |  |
| Peak Hour Volume: 2,901 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |  |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 1.65         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -12.06       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -15.07       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 69.9          | 68.2    | 63.6        | 61.5      | 69.5 | 69.8 |
| Medium Trucks: | 66.9          | 65.1    | 60.5        | 58.4      | 66.4 | 66.7 |
| Heavy Trucks:  | 67.8          | 66.1    | 61.5        | 59.4      | 67.4 | 67.7 |
| Vehicle Noise: | 73.2          | 71.4    | 66.9        | 64.8      | 72.7 | 73.0 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 207    | 653    | 2,066  | 6,534  |
| CNEL: | 221    | 699    | 2,210  | 6,989  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: Hunter St.-Boundary Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  |  | NOISE MODEL INPUTS                            |  |     |         |       |       |
|--|--|--|---|--|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |  |     |         |       |       |
| Average Daily Traffic (Adt): 28,471 vehicles |  |  | Autos: 10                                     |  |     |         |       |       |
| Peak Hour Percentage: 10%                    |  |  | Medium Trucks (2 Axles): 10                   |  |     |         |       |       |
| Peak Hour Volume: 2,847 vehicles             |  |  | Heavy Trucks (3+ Axles): 10                   |  |     |         |       |       |
| Vehicle Speed: 40 mph                        |  |  | <b>Vehicle Mix</b>                            |  |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  |  | VehicleType                                   |  | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  |  | Autos: 80.0% 7.0% 13.0% 94.00%                |  |     |         |       |       |
| Barrier Height: 0.0 feet                     |  |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |  |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |  |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  |  | <b>Noise Source Elevations (in feet)</b>      |  |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  |  | Autos: 0.000                                  |  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  |  | Medium Trucks: 2.297                          |  |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |  |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  |  | <b>Lane Equivalent Distance (in feet)</b>     |  |     |         |       |       |
| Road Elevation: 0.0 feet                     |  |  | Autos: 109.950                                |  |     |         |       |       |
| Road Grade: 0.0%                             |  |  | Medium Trucks: 109.869                        |  |     |         |       |       |
| Left View: -90.0 degrees                     |  |  | Heavy Trucks: 109.877                         |  |     |         |       |       |
| Right View: 90.0 degrees                     |  |  |   |  |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.95         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -10.76       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -13.77       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 66.0          | 64.2    | 59.6        | 57.6      | 65.5 | 65.8 |
| Medium Trucks: | 63.5          | 61.7    | 57.1        | 55.1      | 63.0 | 63.3 |
| Heavy Trucks:  | 65.7          | 64.0    | 59.4        | 57.3      | 65.3 | 65.6 |
| Vehicle Noise: | 70.0          | 68.2    | 63.6        | 61.6      | 69.5 | 69.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 99     | 312    | 987    | 3,120  |
| CNEL: | 106    | 334    | 1,055  | 3,337  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: Boundary Rd. - Highland Valley R

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  |  |  | NOISE MODEL INPUTS                            |  |         |         |                       |        |
|--|--|--|--|---|--|---------|---------|-----------------------|--------|
| <b>Highway Data</b>                          |  |  |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |  |         |         |                       |        |
| Average Daily Traffic (Adt): 28,471 vehicles |  |  |  | Autos: 10                                     |  |         |         |                       |        |
| Peak Hour Percentage: 10%                    |  |  |  | Medium Trucks (2 Axles): 10                   |  |         |         |                       |        |
| Peak Hour Volume: 2,847 vehicles             |  |  |  | Heavy Trucks (3+ Axles): 10                   |  |         |         |                       |        |
| Vehicle Speed: 40 mph                        |  |  |  | <b>Vehicle Mix</b>                            |  |         |         |                       |        |
| Near/Far Lane Distance: 12 feet              |  |  |  |   |  |         |         |                       |        |
| <b>Site Data</b>                             |  |  |  | VehicleType                                   |  | Day     | Evening | Night                 | Daily  |
|  |  |  |  | Autos:  |  | 80.0%   | 7.0%    | 13.0%                 | 94.00% |
|  |  |  |  | Medium Trucks:                                |  | 80.0%   | 7.0%    | 13.0%                 | 4.00%  |
|  |  |  |  | Heavy Trucks:                                 |  | 80.0%   | 7.0%    | 13.0%                 | 2.00%  |
|  |  |  |  | <b>Noise Source Elevations (in feet)</b>      |  |         |         |                       |        |
| Barrier Height: 0.0 feet                     |  |  |  | Autos:  |  | 0.000   |         |                       |        |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  |  |  | Medium Trucks:                                |  | 2.297   |         |                       |        |
| Centerline Dist. to Barrier: 100.0 feet      |  |  |  | Heavy Trucks:                                 |  | 8.006   |         | Grade Adjustment: 0.0 |        |
| Centerline Dist. to Observer: 110.0 feet     |  |  |  | <b>Lane Equivalent Distance (in feet)</b>     |  |         |         |                       |        |
| Barrier Distance to Observer: 10.0 feet      |  |  |  |   |  |         |         |                       |        |
| Observer Height (Above Pad): 5.0 feet        |  |  |  | Autos:  |  | 109.950 |         |                       |        |
| Pad Elevation: 0.0 feet                      |  |  |  | Medium Trucks:                                |  | 109.869 |         |                       |        |
| Road Elevation: 0.0 feet                     |  |  |  | Heavy Trucks:                                 |  | 109.877 |         |                       |        |
| Road Grade: 0.0%                             |  |  |  |   |  |         |         |                       |        |
| Left View: -90.0 degrees                     |  |  |  |   |  |         |         |                       |        |
| Right View: 90.0 degrees                     |  |  |  |   |  |         |         |                       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.95         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -10.76       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -13.77       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 66.0          | 64.2    | 59.6        | 57.6      | 65.5 | 65.8 |
| Medium Trucks: | 63.5          | 61.7    | 57.1        | 55.1      | 63.0 | 63.3 |
| Heavy Trucks:  | 65.7          | 64.0    | 59.4        | 57.3      | 65.3 | 65.6 |
| Vehicle Noise: | 70.0          | 68.2    | 63.6        | 61.6      | 69.5 | 69.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 99     | 312    | 987    | 3,120  |
| CNEL: | 106    | 334    | 1,055  | 3,337  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  |                 |                       | NOISE MODEL INPUTS                            |  |         |         |       |        |
|--|--|-----------------|-----------------------|---|--|---------|---------|-------|--------|
| <b>Highway Data</b>                          |  |                 |                       | <b>Site Conditions (Hard = 10, Soft = 15)</b> |  |         |         |       |        |
| Average Daily Traffic (Adt): 25,059 vehicles |  |                 |                       | Autos: 10                                     |  |         |         |       |        |
| Peak Hour Percentage: 10%                    |  |                 |                       | Medium Trucks (2 Axles): 10                   |  |         |         |       |        |
| Peak Hour Volume: 2,506 vehicles             |  |                 |                       | Heavy Trucks (3+ Axles): 10                   |  |         |         |       |        |
| Vehicle Speed: 40 mph                        |  |                 |                       | <b>Vehicle Mix</b>                            |  |         |         |       |        |
| Near/Far Lane Distance: 12 feet              |  |                 |                       |   |  |         |         |       |        |
| <b>Site Data</b>                             |  |                 |                       | VehicleType                                   |  | Day     | Evening | Night | Daily  |
|  |  |                 |                       | Autos:  |  | 80.0%   | 7.0%    | 13.0% | 94.00% |
|  |  |                 |                       | Medium Trucks:                                |  | 80.0%   | 7.0%    | 13.0% | 4.00%  |
|  |  |                 |                       | Heavy Trucks:                                 |  | 80.0%   | 7.0%    | 13.0% | 2.00%  |
|  |  |                 |                       | <b>Noise Source Elevations (in feet)</b>      |  |         |         |       |        |
|  |  |                 |                       | Autos:  |  | 0.000   |         |       |        |
| Medium Trucks:                               |  | 2.297           |                       |   |  |         |         |       |        |
| Heavy Trucks:                                |  | 8.006           | Grade Adjustment: 0.0 |   |  |         |         |       |        |
|  |  |                 |                       | <b>Lane Equivalent Distance (in feet)</b>     |  |         |         |       |        |
|  |  |                 |                       | Autos:  |  | 109.950 |         |       |        |
|  |  |                 |                       | Medium Trucks:                                |  | 109.869 |         |       |        |
|  |  |                 |                       | Heavy Trucks:                                 |  | 109.877 |         |       |        |
| <b>Barrier Height:</b>                       |  | <b>0.0 feet</b> |                       |   |  |         |         |       |        |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  |                 |                       |   |  |         |         |       |        |
| Centerline Dist. to Barrier: 100.0 feet      |  |                 |                       |   |  |         |         |       |        |
| Centerline Dist. to Observer: 110.0 feet     |  |                 |                       |   |  |         |         |       |        |
| Barrier Distance to Observer: 10.0 feet      |  |                 |                       |   |  |         |         |       |        |
| Observer Height (Above Pad): 5.0 feet        |  |                 |                       |   |  |         |         |       |        |
| Pad Elevation: 0.0 feet                      |  |                 |                       |   |  |         |         |       |        |
| Road Elevation: 0.0 feet                     |  |                 |                       |   |  |         |         |       |        |
| Road Grade: 0.0%                             |  |                 |                       |   |  |         |         |       |        |
| Left View: -90.0 degrees                     |  |                 |                       |   |  |         |         |       |        |
| Right View: 90.0 degrees                     |  |                 |                       |   |  |         |         |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.39         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -11.32       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.33       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.4          | 63.7    | 59.1        | 57.0      | 65.0 | 65.3 |
| Medium Trucks: | 62.9          | 61.2    | 56.6        | 54.5      | 62.5 | 62.8 |
| Heavy Trucks:  | 65.2          | 63.4    | 58.9        | 56.8      | 64.7 | 65.0 |
| Vehicle Noise: | 69.4          | 67.6    | 63.1        | 61.0      | 69.0 | 69.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 87     | 275    | 868    | 2,746  |
| CNEL: | 93     | 294    | 929    | 2,938  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Main St. (SR-67)  
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  |  |  | NOISE MODEL INPUTS                            |  |         |         |                       |        |
|--|--|--|--|---|--|---------|---------|-----------------------|--------|
| <b>Highway Data</b>                          |  |  |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |  |         |         |                       |        |
| Average Daily Traffic (Adt): 25,883 vehicles |  |  |  | Autos: 10                                     |  |         |         |                       |        |
| Peak Hour Percentage: 10%                    |  |  |  | Medium Trucks (2 Axles): 10                   |  |         |         |                       |        |
| Peak Hour Volume: 2,588 vehicles             |  |  |  | Heavy Trucks (3+ Axles): 10                   |  |         |         |                       |        |
| Vehicle Speed: 40 mph                        |  |  |  | <b>Vehicle Mix</b>                            |  |         |         |                       |        |
| Near/Far Lane Distance: 12 feet              |  |  |  |   |  |         |         |                       |        |
| <b>Site Data</b>                             |  |  |  | VehicleType                                   |  | Day     | Evening | Night                 | Daily  |
| Barrier Height: 0.0 feet                     |  |  |  | Autos:  |  | 80.0%   | 7.0%    | 13.0%                 | 94.00% |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  |  |  | Medium Trucks:                                |  | 80.0%   | 7.0%    | 13.0%                 | 4.00%  |
| Centerline Dist. to Barrier: 100.0 feet      |  |  |  | Heavy Trucks:                                 |  | 80.0%   | 7.0%    | 13.0%                 | 2.00%  |
| Centerline Dist. to Observer: 110.0 feet     |  |  |  | <b>Noise Source Elevations (in feet)</b>      |  |         |         |                       |        |
| Barrier Distance to Observer: 10.0 feet      |  |  |  |   |  |         |         |                       |        |
| Observer Height (Above Pad): 5.0 feet        |  |  |  | Autos:  |  | 0.000   |         |                       |        |
| Pad Elevation: 0.0 feet                      |  |  |  | Medium Trucks:                                |  | 2.297   |         |                       |        |
| Road Elevation: 0.0 feet                     |  |  |  | Heavy Trucks:                                 |  | 8.006   |         | Grade Adjustment: 0.0 |        |
| Road Grade: 0.0%                             |  |  |  | <b>Lane Equivalent Distance (in feet)</b>     |  |         |         |                       |        |
| Left View: -90.0 degrees                     |  |  |  |   |  |         |         |                       |        |
| Right View: 90.0 degrees                     |  |  |  | Autos:  |  | 109.950 |         |                       |        |
|  |  |  |  | Medium Trucks:                                |  | 109.869 |         |                       |        |
|  |  |  |  | Heavy Trucks:                                 |  | 109.877 |         |                       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 2.54         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -11.18       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -14.19       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 65.6          | 63.8    | 59.2        | 57.2      | 65.1 | 65.4 |
| Medium Trucks: | 63.1          | 61.3    | 56.7        | 54.6      | 62.6 | 62.9 |
| Heavy Trucks:  | 65.3          | 63.6    | 59.0        | 56.9      | 64.9 | 65.2 |
| Vehicle Noise: | 69.6          | 67.8    | 63.2        | 61.1      | 69.1 | 69.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 90     | 284    | 897    | 2,836  |
| CNEL: | 96     | 303    | 959    | 3,034  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Way  
 Road Segment: Montecito Ranch Rd - Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 3,131 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 313 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -6.59        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -20.35       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -26.37       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 56.4          | 54.7    | 50.1        | 48.0      | 56.0 | 56.3 |
| Medium Trucks: | 53.9          | 52.1    | 47.6        | 45.5      | 53.4 | 53.7 |
| Heavy Trucks:  | 53.1          | 51.4    | 46.8        | 44.7      | 52.7 | 53.0 |
| Vehicle Noise: | 59.5          | 57.7    | 53.2        | 51.1      | 59.1 | 59.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 9      | 28     | 88     | 280    |
| CNEL: | 9      | 30     | 95     | 299    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Way  
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,472 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 247 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -7.62        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -21.37       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -27.40       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 55.4          | 53.6    | 49.1        | 47.0      | 55.0 | 55.3 |
| Medium Trucks: | 52.9          | 51.1    | 46.5        | 44.4      | 52.4 | 52.7 |
| Heavy Trucks:  | 52.1          | 50.3    | 45.8        | 43.7      | 51.7 | 52.0 |
| Vehicle Noise: | 58.5          | 56.7    | 52.1        | 50.1      | 58.0 | 58.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 7      | 22     | 70     | 221    |
| CNEL: | 7      | 24     | 75     | 236    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |                | NOISE MODEL INPUTS                            |     |         |       |                       |    |
|--------------------------------|----------------|---|-----|---------|-------|-----------------------|----|
| <b>Highway Data</b>            |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |                       |    |
| Average Daily Traffic (Adt):   | 3,131 vehicles | Autos:  |     |         |       |                       | 10 |
| Peak Hour Percentage:          | 10%            | Medium Trucks (2 Axles):                      |     |         |       |                       | 10 |
| Peak Hour Volume:              | 313 vehicles   | Heavy Trucks (3+ Axles):                      |     |         |       |                       | 10 |
| Vehicle Speed:                 | 40 mph         | <b>Vehicle Mix</b>                            |     |         |       |                       |    |
| Near/Far Lane Distance:        | 12 feet        |   |     |         |       |                       |    |
| <b>Site Data</b>               |                | VehicleType                                   | Day | Evening | Night | Daily                 |    |
| <b>Barrier Height:</b>         |                | <b>0.0 feet</b>                               |     |         |       |                       |    |
| Barrier Type (0-Wall, 1-Berm): |                | 0.0   |     |         |       |                       |    |
| Centerline Dist. to Barrier:   |                | 100.0 feet                                    |     |         |       |                       |    |
| Centerline Dist. to Observer:  |                | 110.0 feet                                    |     |         |       |                       |    |
| Barrier Distance to Observer:  |                | 10.0 feet                                     |     |         |       |                       |    |
| Observer Height (Above Pad):   |                | 5.0 feet                                      |     |         |       |                       |    |
| Pad Elevation:                 |                | 0.0 feet                                      |     |         |       |                       |    |
| Road Elevation:                |                | 0.0 feet                                      |     |         |       |                       |    |
| Road Grade:                    |                | 0.0%  |     |         |       |                       |    |
| Left View:                     |                | -90.0 degrees                                 |     |         |       |                       |    |
| Right View:                    |                | 90.0 degrees                                  |     |         |       |                       |    |
|                                |                | <b>Noise Source Elevations (in feet)</b>      |     |         |       |                       |    |
|                                |                | Autos:  |     | 0.000   |       |                       |    |
|                                |                | Medium Trucks:                                |     | 2.297   |       |                       |    |
|                                |                | Heavy Trucks:                                 |     | 8.006   |       | Grade Adjustment: 0.0 |    |
|                                |                | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |                       |    |
|                                |                | Autos:  |     | 109.950 |       |                       |    |
|                                |                | Medium Trucks:                                |     | 109.869 |       |                       |    |
|                                |                | Heavy Trucks:                                 |     | 109.877 |       |                       |    |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -6.59        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -20.35       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -26.37       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 56.4          | 54.7    | 50.1        | 48.0      | 56.0 | 56.3 |
| Medium Trucks: | 53.9          | 52.1    | 47.6        | 45.5      | 53.4 | 53.7 |
| Heavy Trucks:  | 53.1          | 51.4    | 46.8        | 44.7      | 52.7 | 53.0 |
| Vehicle Noise: | 59.5          | 57.7    | 53.2        | 51.1      | 59.1 | 59.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 9      | 28     | 88     | 280    |
| CNEL: | 9      | 30     | 95     | 299    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,060 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 206 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -8.41        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -22.17       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -28.19       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 54.6          | 52.8    | 48.3        | 46.2      | 54.2 | 54.5 |
| Medium Trucks: | 52.1          | 50.3    | 45.7        | 43.7      | 51.6 | 51.9 |
| Heavy Trucks:  | 51.3          | 49.6    | 45.0        | 42.9      | 50.9 | 51.2 |
| Vehicle Noise: | 57.7          | 55.9    | 51.4        | 49.3      | 57.2 | 57.5 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 6      | 18     | 58     | 184    |
| CNEL: | 6      | 20     | 62     | 197    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Ash St.  
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,795 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 280 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -7.08        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -20.84       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -26.86       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 55.9          | 54.2    | 49.6        | 47.5      | 55.5 | 55.8 |
| Medium Trucks: | 53.4          | 51.6    | 47.1        | 45.0      | 52.9 | 53.2 |
| Heavy Trucks:  | 52.6          | 50.9    | 46.3        | 44.2      | 52.2 | 52.5 |
| Vehicle Noise: | 59.0          | 57.2    | 52.7        | 50.6      | 58.6 | 58.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 8      | 25     | 79     | 250    |
| CNEL: | 8      | 27     | 84     | 267    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Ash St.  
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |               | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--------------------------------|---------------|---|-----|---------|-------|-------|--|
| Highway Data                   |               | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt):   | 676 vehicles  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage:          | 10%           | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume:              | 68 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed:                 | 40 mph        | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance:        | 12 feet       | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                      |               | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |  |
| Barrier Height:                | 0.0 feet      | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): | 0.0           | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier:   | 100.0 feet    | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer:  | 110.0 feet    | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer:  | 10.0 feet     | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad):   | 5.0 feet      | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation:                 | 0.0 feet      | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation:                | 0.0 feet      | Autos: 109.950                            |     |         |       |       |  |
| Road Grade:                    | 0.0%          | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View:                     | -90.0 degrees | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View:                    | 90.0 degrees  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -13.25       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -27.01       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -33.03       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 49.8          | 48.0    | 43.5        | 41.4      | 49.3 | 49.6 |
| Medium Trucks: | 47.2          | 45.5    | 40.9        | 38.8      | 46.8 | 47.1 |
| Heavy Trucks:  | 46.5          | 44.7    | 40.2        | 38.1      | 46.0 | 46.3 |
| Vehicle Noise: | 52.8          | 51.1    | 46.5        | 44.4      | 52.4 | 52.7 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 2      | 6      | 19     | 60     |
| CNEL: | 2      | 6      | 20     | 65     |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Rd.  
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |                | NOISE MODEL INPUTS                            |     |         |       |       |  |
|--------------------------------|----------------|---|-----|---------|-------|-------|--|
| <b>Highway Data</b>            |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |  |
| Average Daily Traffic (Adt):   | 5,560 vehicles | Autos: 10                                     |     |         |       |       |  |
| Peak Hour Percentage:          | 10%            | Medium Trucks (2 Axles): 10                   |     |         |       |       |  |
| Peak Hour Volume:              | 556 vehicles   | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |  |
| Vehicle Speed:                 | 40 mph         | <b>Vehicle Mix</b>                            |     |         |       |       |  |
| Near/Far Lane Distance:        | 12 feet        | VehicleType                                   | Day | Evening | Night | Daily |  |
| <b>Site Data</b>               |                | Autos: 80.0% 7.0% 13.0% 95.00%                |     |         |       |       |  |
| Barrier Height:                | 0.0 feet       | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): | 0.0            | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%          |     |         |       |       |  |
| Centerline Dist. to Barrier:   | 100.0 feet     | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |  |
| Centerline Dist. to Observer:  | 110.0 feet     | Autos: 0.000                                  |     |         |       |       |  |
| Barrier Distance to Observer:  | 10.0 feet      | Medium Trucks: 2.297                          |     |         |       |       |  |
| Observer Height (Above Pad):   | 5.0 feet       | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |  |
| Pad Elevation:                 | 0.0 feet       | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |  |
| Road Elevation:                | 0.0 feet       | Autos: 109.950                                |     |         |       |       |  |
| Road Grade:                    | 0.0%           | Medium Trucks: 109.869                        |     |         |       |       |  |
| Left View:                     | -90.0 degrees  | Heavy Trucks: 109.877                         |     |         |       |       |  |
| Right View:                    | 90.0 degrees   |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -4.10        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -17.85       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -23.88       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 58.9          | 57.2    | 52.6        | 50.5      | 58.5 | 58.8 |
| Medium Trucks: | 56.4          | 54.6    | 50.1        | 48.0      | 55.9 | 56.2 |
| Heavy Trucks:  | 55.6          | 53.9    | 49.3        | 47.2      | 55.2 | 55.5 |
| Vehicle Noise: | 62.0          | 60.2    | 55.7        | 53.6      | 61.5 | 61.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 16     | 50     | 157    | 497    |
| CNEL: | 17     | 53     | 168    | 532    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project  
 Road Name: Montecito Rd.  
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA     |                | NOISE MODEL INPUTS                        |     |         |       |       |  |
|------------------------------|----------------|---|-----|---------|-------|-------|--|
| Highway Data                 |                | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): | 7,942 vehicles | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage:        | 10%            | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume:            | 794 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed:               | 40 mph         | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance:      | 12 feet        |   |     |         |       |       |  |
| Site Data                    |                | VehicleType                               | Day | Evening | Night | Daily |  |
|                              |                | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |  |
|                              |                | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
|                              |                | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |  |
|                              |                | Noise Source Elevations (in feet)         |     |         |       |       |  |
|                              |                | Autos: 0.000                              |     |         |       |       |  |
|                              |                | Medium Trucks: 2.297                      |     |         |       |       |  |
|                              |                | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
|                              |                | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
|                              |                | Autos: 109.950                            |     |         |       |       |  |
| Medium Trucks: 109.869       |                |   |     |         |       |       |  |
| Heavy Trucks: 109.877        |                |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -2.55        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -16.31       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -22.33       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 60.5          | 58.7    | 54.2        | 52.1      | 60.0 | 60.3 |
| Medium Trucks: | 57.9          | 56.2    | 51.6        | 49.5      | 57.5 | 57.8 |
| Heavy Trucks:  | 57.2          | 55.4    | 50.9        | 48.8      | 56.7 | 57.0 |
| Vehicle Noise: | 63.5          | 61.8    | 57.2        | 55.1      | 63.1 | 63.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 22     | 71     | 224    | 710    |
| CNEL: | 24     | 76     | 240    | 759    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: SR-78  
 Road Segment: Ash St. - Haverford Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 14,485 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,448 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 0.01         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -13.70       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -16.71       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 63.0          | 61.3    | 56.7        | 54.6      | 62.6 | 62.9 |
| Medium Trucks: | 60.5          | 58.8    | 54.2        | 52.1      | 60.1 | 60.4 |
| Heavy Trucks:  | 62.8          | 61.0    | 56.5        | 54.4      | 62.4 | 62.7 |
| Vehicle Noise: | 67.0          | 65.3    | 60.7        | 58.6      | 66.6 | 66.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 50     | 159    | 502    | 1,587  |
| CNEL: | 54     | 170    | 537    | 1,698  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: SR-78  
 Road Segment: Ash St. - Olive St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 19,100 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,910 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 1.22         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -12.50       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -15.51       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 64.2          | 62.5    | 57.9        | 55.8      | 63.8 | 64.1 |
| Medium Trucks: | 61.7          | 60.0    | 55.4        | 53.3      | 61.3 | 61.6 |
| Heavy Trucks:  | 64.0          | 62.2    | 57.7        | 55.6      | 63.6 | 63.9 |
| Vehicle Noise: | 68.2          | 66.5    | 61.9        | 59.8      | 67.8 | 68.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 66     | 209    | 662    | 2,093  |
| CNEL: | 71     | 224    | 708    | 2,239  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: SR-78  
 Road Segment: Olive St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 19,130 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 1,913 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 1.22         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -12.49       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -15.50       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 64.2          | 62.5    | 57.9        | 55.8      | 63.8 | 64.1 |
| Medium Trucks: | 61.7          | 60.0    | 55.4        | 53.3      | 61.3 | 61.6 |
| Heavy Trucks:  | 64.0          | 62.2    | 57.7        | 55.6      | 63.6 | 63.9 |
| Vehicle Noise: | 68.2          | 66.5    | 61.9        | 59.8      | 67.8 | 68.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 66     | 210    | 663    | 2,096  |
| CNEL: | 71     | 224    | 709    | 2,242  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: 10th St.  
 Road Segment: Main St. (SR-67) - H St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |
|--|--|---|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt): 18,710 vehicles |  | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume: 1,871 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed: 40 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 95.00%                |     |         |       |       |
| <b>Barrier Height:</b> 0.0 feet              |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%          |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 1.17         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -12.58       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -18.61       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 64.2          | 62.4    | 57.9        | 55.8      | 63.8 | 64.0 |
| Medium Trucks: | 61.6          | 59.9    | 55.3        | 53.2      | 61.2 | 61.5 |
| Heavy Trucks:  | 60.9          | 59.1    | 54.6        | 52.5      | 60.5 | 60.8 |
| Vehicle Noise: | 67.3          | 65.5    | 60.9        | 58.9      | 66.8 | 67.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 53     | 167    | 529    | 1,672  |
| CNEL: | 57     | 179    | 566    | 1,789  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-78)  
 Road Segment: 7th St. - 3rd St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 30,680 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 3,068 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 1.89         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -11.82       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -14.83       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 70.2          | 68.4    | 63.9        | 61.8      | 69.7 | 70.0 |
| Medium Trucks: | 67.1          | 65.3    | 60.8        | 58.7      | 66.7 | 67.0 |
| Heavy Trucks:  | 68.1          | 66.3    | 61.8        | 59.7      | 67.6 | 67.9 |
| Vehicle Noise: | 73.4          | 71.7    | 67.1        | 65.0      | 73.0 | 73.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 219    | 691    | 2,185  | 6,911  |
| CNEL: | 234    | 739    | 2,338  | 7,393  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: 10th St. - Montecito Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                     |         |                   |       |        |     |
|--|--|--|---------|-------------------|-------|--------|-----|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15) |         |                   |       |        |     |
| Average Daily Traffic (Adt): 37,292 vehicles |  | Autos: 10                              |         |                   |       |        |     |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10            |         |                   |       |        |     |
| Peak Hour Volume: 3,729 vehicles             |  | Heavy Trucks (3+ Axles): 10            |         |                   |       |        |     |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                            |         |                   |       |        |     |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                            | Day     | Evening           | Night | Daily  |     |
| Site Data                                    |  | Autos:                                 | 80.0%   | 7.0%              | 13.0% | 94.00% |     |
| Barrier Height: 0.0 feet                     |  | Medium Trucks:                         | 80.0%   | 7.0%              | 13.0% | 4.00%  |     |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks:                          | 80.0%   | 7.0%              | 13.0% | 2.00%  |     |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)      |         |                   |       |        |     |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos:                                 | 0.000   |                   |       |        |     |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks:                         | 2.297   |                   |       |        |     |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks:                          | 8.006   | Grade Adjustment: |       |        | 0.0 |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)     |         |                   |       |        |     |
| Road Elevation: 0.0 feet                     |  | Autos:                                 | 109.950 |                   |       |        |     |
| Road Grade: 0.0%                             |  | Medium Trucks:                         | 109.869 |                   |       |        |     |
| Left View: -90.0 degrees                     |  | Heavy Trucks:                          | 109.877 |                   |       |        |     |
| Right View: 90.0 degrees                     |  |  |         |                   |       |        |     |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 2.74         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -10.97       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -13.98       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 71.0          | 69.3    | 64.7        | 62.6      | 70.6 | 70.9 |
| Medium Trucks: | 67.9          | 66.2    | 61.6        | 59.5      | 67.5 | 67.8 |
| Heavy Trucks:  | 68.9          | 67.2    | 62.6        | 60.5      | 68.5 | 68.8 |
| Vehicle Noise: | 74.3          | 72.5    | 67.9        | 65.9      | 73.8 | 74.1 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 266    | 840    | 2,656  | 8,400  |
| CNEL: | 284    | 899    | 2,842  | 8,986  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: Montecito Rd. - Hunter St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 36,092 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 3,609 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 55 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 71.78 | 2.60         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 82.40 | -11.11       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 86.40 | -14.12       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 70.9          | 69.1    | 64.6        | 62.5      | 70.4 | 70.7 |
| Medium Trucks: | 67.8          | 66.0    | 61.5        | 59.4      | 67.4 | 67.7 |
| Heavy Trucks:  | 68.8          | 67.0    | 62.5        | 60.4      | 68.3 | 68.6 |
| Vehicle Noise: | 74.1          | 72.4    | 67.8        | 65.7      | 73.7 | 74.0 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 257    | 813    | 2,571  | 8,130  |
| CNEL: | 275    | 870    | 2,750  | 8,697  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: Hunter St.-Boundary Rd.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 36,338 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 3,634 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 4.01         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -9.70        | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -12.71       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 67.0          | 65.3    | 60.7        | 58.6      | 66.6 | 66.9 |
| Medium Trucks: | 64.5          | 62.8    | 58.2        | 56.1      | 64.1 | 64.4 |
| Heavy Trucks:  | 66.8          | 65.0    | 60.5        | 58.4      | 66.4 | 66.6 |
| Vehicle Noise: | 71.0          | 69.3    | 64.7        | 62.6      | 70.6 | 70.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 126    | 398    | 1,259  | 3,982  |
| CNEL: | 135    | 426    | 1,347  | 4,260  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: Boundary Rd. - Highland Valley R

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |
|--|--|---|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt): 36,338 vehicles |  | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume: 3,634 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed: 40 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 4.01         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -9.70        | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -12.71       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 67.0          | 65.3    | 60.7        | 58.6      | 66.6 | 66.9 |
| Medium Trucks: | 64.5          | 62.8    | 58.2        | 56.1      | 64.1 | 64.4 |
| Heavy Trucks:  | 66.8          | 65.0    | 60.5        | 58.4      | 66.4 | 66.6 |
| Vehicle Noise: | 71.0          | 69.3    | 64.7        | 62.6      | 70.6 | 70.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 126    | 398    | 1,259  | 3,982  |
| CNEL: | 135    | 426    | 1,347  | 4,260  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: Highland Valley Rd.- Archie Moor

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                            |     |         |       |       |
|--|--|---|-----|---------|-------|-------|
| <b>Highway Data</b>                          |  | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt): 34,456 vehicles |  | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume: 3,446 vehicles             |  | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed: 40 mph                        |  | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Site Data</b>                             |  | Autos: 80.0% 7.0% 13.0% 94.00%                |     |         |       |       |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%          |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet      |  | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                                  |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                          |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Pad Elevation: 0.0 feet                      |  | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                                |     |         |       |       |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                        |     |         |       |       |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                         |     |         |       |       |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 3.78         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -9.93        | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -12.94       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 66.8          | 65.0    | 60.5        | 58.4      | 66.4 | 66.7 |
| Medium Trucks: | 64.3          | 62.5    | 58.0        | 55.9      | 63.9 | 64.1 |
| Heavy Trucks:  | 66.6          | 64.8    | 60.2        | 58.2      | 66.1 | 66.4 |
| Vehicle Noise: | 70.8          | 69.0    | 64.5        | 62.4      | 70.4 | 70.6 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 119    | 378    | 1,194  | 3,776  |
| CNEL: | 128    | 404    | 1,277  | 4,039  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Main St. (SR-67)  
 Road Segment: Archie Moore Rd. - Poway Rd

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                     |  | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--|--|---|-----|---------|-------|-------|--|
| Highway Data                                 |  | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt): 35,686 vehicles |  | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage: 10%                    |  | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume: 3,569 vehicles             |  | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed: 40 mph                        |  | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance: 12 feet              |  | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                                    |  | Autos: 80.0% 7.0% 13.0% 94.00%            |     |         |       |       |  |
| Barrier Height: 0.0 feet                     |  | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): 0.0           |  | Heavy Trucks: 80.0% 7.0% 13.0% 2.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier: 100.0 feet      |  | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer: 110.0 feet     |  | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer: 10.0 feet      |  | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad): 5.0 feet        |  | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation: 0.0 feet                      |  | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation: 0.0 feet                     |  | Autos: 109.950                            |     |         |       |       |  |
| Road Grade: 0.0%                             |  | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View: -90.0 degrees                     |  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View: 90.0 degrees                     |  |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | 3.93         | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -9.78        | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -12.79       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 67.0          | 65.2    | 60.6        | 58.5      | 66.5 | 66.8 |
| Medium Trucks: | 64.4          | 62.7    | 58.1        | 56.0      | 64.0 | 64.3 |
| Heavy Trucks:  | 66.7          | 65.0    | 60.4        | 58.3      | 66.3 | 66.6 |
| Vehicle Noise: | 70.9          | 69.2    | 64.6        | 62.5      | 70.5 | 70.8 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 124    | 391    | 1,237  | 3,910  |
| CNEL: | 132    | 418    | 1,323  | 4,183  |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Way  
 Road Segment: Montecito Ranch Rd - Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |  |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|--|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |  |
| Average Daily Traffic (Adt):    | 3,131 vehicles | Autos: 10                                     |         |                       |       |        |  |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |  |
| Peak Hour Volume:               | 313 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |  |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |  |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |  |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |  |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |  |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |  |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |  |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |  |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |  |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |  |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |  |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |  |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |  |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -6.59        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -20.35       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -26.37       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 56.4          | 54.7    | 50.1        | 48.0      | 56.0 | 56.3 |
| Medium Trucks: | 53.9          | 52.1    | 47.6        | 45.5      | 53.4 | 53.7 |
| Heavy Trucks:  | 53.1          | 51.4    | 46.8        | 44.7      | 52.7 | 53.0 |
| Vehicle Noise: | 59.5          | 57.7    | 53.2        | 51.1      | 59.1 | 59.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 9      | 28     | 88     | 280    |
| CNEL: | 9      | 30     | 95     | 299    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Way  
 Road Segment: Montecito Rd.- Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,472 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 247 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -7.62        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -21.37       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -27.40       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 55.4          | 53.6    | 49.1        | 47.0      | 55.0 | 55.3 |
| Medium Trucks: | 52.9          | 51.1    | 46.5        | 44.4      | 52.4 | 52.7 |
| Heavy Trucks:  | 52.1          | 50.3    | 45.8        | 43.7      | 51.7 | 52.0 |
| Vehicle Noise: | 58.5          | 56.7    | 52.1        | 50.1      | 58.0 | 58.3 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 7      | 22     | 70     | 221    |
| CNEL: | 7      | 24     | 75     | 236    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Project West Access to Montecito

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA                 |                | NOISE MODEL INPUTS                            |     |         |       |       |
|--|----------------|---|-----|---------|-------|-------|
| <b>Highway Data</b>                      |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |
| Average Daily Traffic (Adt):             | 2,531 vehicles | Autos: 10                                     |     |         |       |       |
| Peak Hour Percentage:                    | 10%            | Medium Trucks (2 Axles): 10                   |     |         |       |       |
| Peak Hour Volume:                        | 253 vehicles   | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |
| Vehicle Speed:                           | 40 mph         | <b>Vehicle Mix</b>                            |     |         |       |       |
| Near/Far Lane Distance:                  | 12 feet        |   |     |         |       |       |
| <b>Site Data</b>                         |                | VehicleType                                   | Day | Evening | Night | Daily |
| <b>Barrier Height:</b> 0.0 feet          |                | Autos: 80.0% 7.0% 13.0% 95.00%                |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): 0.0       |                | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |
| Centerline Dist. to Barrier: 100.0 feet  |                | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%          |     |         |       |       |
| Centerline Dist. to Observer: 110.0 feet |                | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |
| Barrier Distance to Observer: 10.0 feet  |                | Autos: 0.000                                  |     |         |       |       |
| Observer Height (Above Pad): 5.0 feet    |                | Medium Trucks: 2.297                          |     |         |       |       |
| Pad Elevation: 0.0 feet                  |                | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |
| Road Elevation: 0.0 feet                 |                | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |
| Road Grade: 0.0%                         |                | Autos: 109.950                                |     |         |       |       |
| Left View: -90.0 degrees                 |                | Medium Trucks: 109.869                        |     |         |       |       |
| Right View: 90.0 degrees                 |                | Heavy Trucks: 109.877                         |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -7.52        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -21.27       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -27.29       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 55.5          | 53.7    | 49.2        | 47.1      | 55.1 | 55.4 |
| Medium Trucks: | 53.0          | 51.2    | 46.6        | 44.6      | 52.5 | 52.8 |
| Heavy Trucks:  | 52.2          | 50.5    | 45.9        | 43.8      | 51.8 | 52.1 |
| Vehicle Noise: | 58.6          | 56.8    | 52.2        | 50.2      | 58.1 | 58.4 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 7      | 23     | 72     | 226    |
| CNEL: | 8      | 24     | 77     | 242    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Ranch Rd.  
 Road Segment: Between Main Project Access Poi

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,060 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 206 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -8.41        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -22.17       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -28.19       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 54.6          | 52.8    | 48.3        | 46.2      | 54.2 | 54.5 |
| Medium Trucks: | 52.1          | 50.3    | 45.7        | 43.7      | 51.6 | 51.9 |
| Heavy Trucks:  | 51.3          | 49.6    | 45.0        | 42.9      | 50.9 | 51.2 |
| Vehicle Noise: | 57.7          | 55.9    | 51.4        | 49.3      | 57.2 | 57.5 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 6      | 18     | 58     | 184    |
| CNEL: | 6      | 20     | 62     | 197    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Ash St.  
 Road Segment: East Project Access - Pine St. (S)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA        |                | NOISE MODEL INPUTS                            |         |                       |       |        |
|---------------------------------|----------------|---|---------|-----------------------|-------|--------|
| <b>Highway Data</b>             |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |         |                       |       |        |
| Average Daily Traffic (Adt):    | 2,795 vehicles | Autos: 10                                     |         |                       |       |        |
| Peak Hour Percentage:           | 10%            | Medium Trucks (2 Axles): 10                   |         |                       |       |        |
| Peak Hour Volume:               | 280 vehicles   | Heavy Trucks (3+ Axles): 10                   |         |                       |       |        |
| Vehicle Speed:                  | 40 mph         | <b>Vehicle Mix</b>                            |         |                       |       |        |
| Near/Far Lane Distance:         | 12 feet        |   |         |                       |       |        |
| <b>Site Data</b>                |                | VehicleType                                   | Day     | Evening               | Night | Daily  |
| <b>Barrier Height:</b> 0.0 feet |                | Autos:  | 80.0%   | 7.0%                  | 13.0% | 95.00% |
| Barrier Type (0-Wall, 1-Berm):  | 0.0            | Medium Trucks:                                | 80.0%   | 7.0%                  | 13.0% | 4.00%  |
| Centerline Dist. to Barrier:    | 100.0 feet     | Heavy Trucks:                                 | 80.0%   | 7.0%                  | 13.0% | 1.00%  |
| Centerline Dist. to Observer:   | 110.0 feet     | <b>Noise Source Elevations (in feet)</b>      |         |                       |       |        |
| Barrier Distance to Observer:   | 10.0 feet      |   |         |                       |       |        |
| Observer Height (Above Pad):    | 5.0 feet       | Autos:  | 0.000   | Grade Adjustment: 0.0 |       |        |
| Pad Elevation:                  | 0.0 feet       | Medium Trucks:                                | 2.297   |                       |       |        |
| Road Elevation:                 | 0.0 feet       | Heavy Trucks:                                 | 8.006   |                       |       |        |
| Road Grade:                     | 0.0%           | <b>Lane Equivalent Distance (in feet)</b>     |         |                       |       |        |
| Left View:                      | -90.0 degrees  |   |         |                       |       |        |
| Right View:                     | 90.0 degrees   | Autos:  | 109.950 |                       |       |        |
|                                 |                | Medium Trucks:                                | 109.869 |                       |       |        |
|                                 |                | Heavy Trucks:                                 | 109.877 |                       |       |        |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -7.08        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -20.84       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -26.86       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 55.9          | 54.2    | 49.6        | 47.5      | 55.5 | 55.8 |
| Medium Trucks: | 53.4          | 51.6    | 47.1        | 45.0      | 52.9 | 53.2 |
| Heavy Trucks:  | 52.6          | 50.9    | 46.3        | 44.2      | 52.2 | 52.5 |
| Vehicle Noise: | 59.0          | 57.2    | 52.7        | 50.6      | 58.6 | 58.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 8      | 25     | 79     | 250    |
| CNEL: | 8      | 27     | 84     | 267    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Ash St.  
 Road Segment: Pine St.(SR-78) - Elm St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |               | NOISE MODEL INPUTS                        |     |         |       |       |
|--------------------------------|---------------|---|-----|---------|-------|-------|
| Highway Data                   |               | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |
| Average Daily Traffic (Adt):   | 676 vehicles  | Autos: 10                                 |     |         |       |       |
| Peak Hour Percentage:          | 10%           | Medium Trucks (2 Axles): 10               |     |         |       |       |
| Peak Hour Volume:              | 68 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |
| Vehicle Speed:                 | 40 mph        | Vehicle Mix                               |     |         |       |       |
| Near/Far Lane Distance:        | 12 feet       | VehicleType                               | Day | Evening | Night | Daily |
| Site Data                      |               | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |
| Barrier Height:                | 0.0 feet      | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |
| Barrier Type (0-Wall, 1-Berm): | 0.0           | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |
| Centerline Dist. to Barrier:   | 100.0 feet    | Noise Source Elevations (in feet)         |     |         |       |       |
| Centerline Dist. to Observer:  | 110.0 feet    | Autos: 0.000                              |     |         |       |       |
| Barrier Distance to Observer:  | 10.0 feet     | Medium Trucks: 2.297                      |     |         |       |       |
| Observer Height (Above Pad):   | 5.0 feet      | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |
| Pad Elevation:                 | 0.0 feet      | Lane Equivalent Distance (in feet)        |     |         |       |       |
| Road Elevation:                | 0.0 feet      | Autos: 109.950                            |     |         |       |       |
| Road Grade:                    | 0.0%          | Medium Trucks: 109.869                    |     |         |       |       |
| Left View:                     | -90.0 degrees | Heavy Trucks: 109.877                     |     |         |       |       |
| Right View:                    | 90.0 degrees  |   |     |         |       |       |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -13.25       | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -27.01       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -33.03       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 49.8          | 48.0    | 43.5        | 41.4      | 49.3 | 49.6 |
| Medium Trucks: | 47.2          | 45.5    | 40.9        | 38.8      | 46.8 | 47.1 |
| Heavy Trucks:  | 46.5          | 44.7    | 40.2        | 38.1      | 46.0 | 46.3 |
| Vehicle Noise: | 52.8          | 51.1    | 46.5        | 44.4      | 52.4 | 52.7 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 2      | 6      | 19     | 60     |
| CNEL: | 2      | 6      | 20     | 65     |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Rd.  
 Road Segment: Montecito Way - Davis St.

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA       |                | NOISE MODEL INPUTS                        |     |         |       |       |  |
|--------------------------------|----------------|---|-----|---------|-------|-------|--|
| Highway Data                   |                | Site Conditions (Hard = 10, Soft = 15)    |     |         |       |       |  |
| Average Daily Traffic (Adt):   | 6,519 vehicles | Autos: 10                                 |     |         |       |       |  |
| Peak Hour Percentage:          | 10%            | Medium Trucks (2 Axles): 10               |     |         |       |       |  |
| Peak Hour Volume:              | 652 vehicles   | Heavy Trucks (3+ Axles): 10               |     |         |       |       |  |
| Vehicle Speed:                 | 40 mph         | Vehicle Mix                               |     |         |       |       |  |
| Near/Far Lane Distance:        | 12 feet        | VehicleType                               | Day | Evening | Night | Daily |  |
| Site Data                      |                | Autos: 80.0% 7.0% 13.0% 95.00%            |     |         |       |       |  |
| Barrier Height:                | 0.0 feet       | Medium Trucks: 80.0% 7.0% 13.0% 4.00%     |     |         |       |       |  |
| Barrier Type (0-Wall, 1-Berm): | 0.0            | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%      |     |         |       |       |  |
| Centerline Dist. to Barrier:   | 100.0 feet     | Noise Source Elevations (in feet)         |     |         |       |       |  |
| Centerline Dist. to Observer:  | 110.0 feet     | Autos: 0.000                              |     |         |       |       |  |
| Barrier Distance to Observer:  | 10.0 feet      | Medium Trucks: 2.297                      |     |         |       |       |  |
| Observer Height (Above Pad):   | 5.0 feet       | Heavy Trucks: 8.006 Grade Adjustment: 0.0 |     |         |       |       |  |
| Pad Elevation:                 | 0.0 feet       | Lane Equivalent Distance (in feet)        |     |         |       |       |  |
| Road Elevation:                | 0.0 feet       | Autos: 109.950                            |     |         |       |       |  |
| Road Grade:                    | 0.0%           | Medium Trucks: 109.869                    |     |         |       |       |  |
| Left View:                     | -90.0 degrees  | Heavy Trucks: 109.877                     |     |         |       |       |  |
| Right View:                    | 90.0 degrees   |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -3.41        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -17.16       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -23.18       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 59.6          | 57.9    | 53.3        | 51.2      | 59.2 | 59.5 |
| Medium Trucks: | 57.1          | 55.3    | 50.7        | 48.7      | 56.6 | 56.9 |
| Heavy Trucks:  | 56.3          | 54.6    | 50.0        | 47.9      | 55.9 | 56.2 |
| Vehicle Noise: | 62.7          | 60.9    | 56.4        | 54.3      | 62.2 | 62.5 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 18     | 58     | 184    | 583    |
| CNEL: | 20     | 62     | 197    | 623    |

# FHWA-RD-77-108 HIGHWAY NOISE PREDICTION MODEL

Scenario: Existing + Project + Cumulative  
 Road Name: Montecito Rd.  
 Road Segment: Davis St. - Main St. (SR-67)

Project Name: Montecito Ranch  
 Job Number: 4568  
 Analyst: A. Stalker

| SITE SPECIFIC INPUT DATA     |                | NOISE MODEL INPUTS                            |     |         |       |       |  |
|------------------------------|----------------|---|-----|---------|-------|-------|--|
| <b>Highway Data</b>          |                | <b>Site Conditions (Hard = 10, Soft = 15)</b> |     |         |       |       |  |
| Average Daily Traffic (Adt): | 8,901 vehicles | Autos: 10                                     |     |         |       |       |  |
| Peak Hour Percentage:        | 10%            | Medium Trucks (2 Axles): 10                   |     |         |       |       |  |
| Peak Hour Volume:            | 890 vehicles   | Heavy Trucks (3+ Axles): 10                   |     |         |       |       |  |
| Vehicle Speed:               | 40 mph         | <b>Vehicle Mix</b>                            |     |         |       |       |  |
| Near/Far Lane Distance:      | 12 feet        |   |     |         |       |       |  |
| <b>Site Data</b>             |                | VehicleType                                   | Day | Evening | Night | Daily |  |
|                              |                | Autos: 80.0% 7.0% 13.0% 95.00%                |     |         |       |       |  |
|                              |                | Medium Trucks: 80.0% 7.0% 13.0% 4.00%         |     |         |       |       |  |
|                              |                | Heavy Trucks: 80.0% 7.0% 13.0% 1.00%          |     |         |       |       |  |
|                              |                | <b>Noise Source Elevations (in feet)</b>      |     |         |       |       |  |
|                              |                | Autos: 0.000                                  |     |         |       |       |  |
|                              |                | Medium Trucks: 2.297                          |     |         |       |       |  |
|                              |                | Heavy Trucks: 8.006 Grade Adjustment: 0.0     |     |         |       |       |  |
|                              |                | <b>Lane Equivalent Distance (in feet)</b>     |     |         |       |       |  |
|                              |                | Autos: 109.950                                |     |         |       |       |  |
| Medium Trucks: 109.869       |                |   |     |         |       |       |  |
| Heavy Trucks: 109.877        |                |   |     |         |       |       |  |

## FHWA Noise Model Calculations

| VehicleType    | REMEL | Traffic Flow | Distance | Finite Road | Fresnel | Barrier Atten | Berm Atten |
|----------------|-------|--------------|----------|-------------|---------|---------------|------------|
| Autos:         | 66.51 | -2.05        | -3.49    | 0.00        | -1.04   | 0.000         | 0.000      |
| Medium Trucks: | 77.72 | -15.81       | -3.49    | 0.00        | -1.15   | 0.000         | 0.000      |
| Heavy Trucks:  | 82.99 | -21.83       | -3.49    | 0.00        | -1.43   | 0.000         | 0.000      |

## Unmitigated Noise Levels (without Topo and barrier attenuation)

| VehicleType    | Leq Peak Hour | Leq Day | Leq Evening | Leq Night | Ldn  | CNEL |
|----------------|---------------|---------|-------------|-----------|------|------|
| Autos:         | 61.0          | 59.2    | 54.6        | 52.6      | 60.5 | 60.8 |
| Medium Trucks: | 58.4          | 56.7    | 52.1        | 50.0      | 58.0 | 58.3 |
| Heavy Trucks:  | 57.7          | 55.9    | 51.4        | 49.3      | 57.2 | 57.5 |
| Vehicle Noise: | 64.0          | 62.3    | 57.7        | 55.6      | 63.6 | 63.9 |

## Centerline Distance to Noise Contour (in feet)

|       | 70 dBA | 65 dBA | 60 dBA | 55 dBA |
|-------|--------|--------|--------|--------|
| Ldn:  | 25     | 80     | 252    | 795    |
| CNEL: | 27     | 85     | 269    | 851    |

## **APPENDIX D**

BUILDING FACADE ANALYSIS PREDICTION MODEL INPUTS  
AND CALCULATIONS FOR EXISTING PLUS PROJECT SCENARIO

# OFFSITE

Montecito Ranch First Floor Off Site Existing Plus Project

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N, 4309. , 4740, 1436,

N, 4205. , 4547, 1432,

N, 4188. , 4350, 1430,

N, 4175. , 3006, 1415,

N, 4157. , 2237, 1412,

N, 4158. , 1370, 1405,

N, 4142. , 385, 1400,

L-Ash Street, 2

N, 11089. , 6896, 1619,

N, 11931. , 6894, 1575,

N, 12627. , 6895, 1558,

N, 13085. , 6894, 1556,

N, 13954. , 6891, 1552,

N, 14437. , 6891, 1551,

B-Road Edge 1, 1 , 1 , 0 , 0

4329. , 4740, 1436, 1436,

4225. , 4547, 1432, 1432,

4208. , 4350, 1430, 1430,

4195. , 3006, 1415, 1415,

4177. , 2237, 1412, 1412,

4178. , 1370, 1405, 1405,

4162. , 385, 1400, 1400,

B-Road Edge 2, 2 , 1 , 0 , 0

4289. , 4740, 1436, 1436,

4185. , 4547, 1432, 1432,

4168. , 4350, 1430, 1430,

4155. , 3006, 1415, 1415,

4137. , 2237, 1412, 1412,

4138. , 1370, 1405, 1405,

4122. , 385, 1400, 1400,

B-Road Edge 3, 3 , 1 , 0 , 0

11089. , 6916, 1619, 1619,

11931. , 6914, 1575, 1575,

12627. , 6915, 1558, 1558,

13085. , 6914, 1556, 1556,

13954. , 6911, 1552, 1552,

14437. , 6911, 1551, 1551,

B-Road Edge 4, 4 , 2 , 0 , 0

11089. , 6876, 1619, 1619,

11931. , 6874, 1575, 1575,

12627. , 6875, 1558, 1558,

13085. , 6874, 1556, 1556,

13954. , 6871, 1552, 1552,

14437. , 6871, 1551, 1551,

R, 1 , 67 , 500

4230, 4298, 1435. ,

R, 2 , 67 , 500

4227, 4059, 1430. ,

R, 3 , 67 , 500

4331, 2932, 1418. ,

R, 4 , 67 , 500

4233, 2847, 1418. ,

R, 5 , 67 , 500

4212, 2716, 1418. ,

R, 6 , 67 , 500

4219, 2645, 1418. ,

R, 7 , 67 , 500

## OFFSITE

4226, 2558, 1416. ,  
R, 8 , 67 , 500  
4114, 2138, 1418. ,  
R, 9 , 67 , 500  
4061, 1427, 1409. ,  
R, 10 , 67 , 500  
4202, 669, 1409. ,  
R, 11 , 67 , 500  
11304, 7064, 1627. ,  
R, 12 , 67 , 500  
11489, 6841, 1593. ,  
R, 13 , 67 , 500  
11647, 6970, 1585. ,  
R, 14 , 67 , 500  
11716, 6952, 1583. ,  
R, 15 , 67 , 500  
11852, 7004, 1566. ,  
R, 16 , 67 , 500  
11952, 6777, 1582. ,  
R, 17 , 67 , 500  
11994, 6963, 1562. ,  
R, 18 , 67 , 500  
12498, 6983, 1550. ,  
R, 19 , 67 , 500  
12859, 6739, 1565. ,  
R, 20 , 67 , 500  
12965, 7058, 1567. ,  
C, C

## SOUND32

SOUND32 - RELEASE 07/30/91

TITLE:

Montecito Ranch First Floor Off Site Existing Plus Project

## BARRIER DATA

\*\*\*\*\*

| BAR<br>ELE | 0 | 1    | BARRIER HEIGHTS |  |  |  |  |  |  | BAR<br>ID | LENGTH | TYPE    |
|------------|---|------|-----------------|--|--|--|--|--|--|-----------|--------|---------|
| 1          | - | 0. * |                 |  |  |  |  |  |  | B1 P1     | 219.3  | BERM    |
| 2          | - | 0. * |                 |  |  |  |  |  |  | B1 P2     | 197.7  | BERM    |
| 3          | - | 0. * |                 |  |  |  |  |  |  | B1 P3     | 1344.1 | BERM    |
| 4          | - | 0. * |                 |  |  |  |  |  |  | B1 P4     | 769.2  | BERM    |
| 5          | - | 0. * |                 |  |  |  |  |  |  | B1 P5     | 867.0  | BERM    |
| 6          | - | 0. * |                 |  |  |  |  |  |  | B1 P6     | 985.1  | BERM    |
| 7          | - | 0. * |                 |  |  |  |  |  |  | B2 P1     | 219.3  | BERM    |
| 8          | - | 0. * |                 |  |  |  |  |  |  | B2 P2     | 197.7  | BERM    |
| 9          | - | 0. * |                 |  |  |  |  |  |  | B2 P3     | 1344.1 | BERM    |
| 10         | - | 0. * |                 |  |  |  |  |  |  | B2 P4     | 769.2  | BERM    |
| 11         | - | 0. * |                 |  |  |  |  |  |  | B2 P5     | 867.0  | BERM    |
| 12         | - | 0. * |                 |  |  |  |  |  |  | B2 P6     | 985.1  | BERM    |
| 13         | - | 0. * |                 |  |  |  |  |  |  | B3 P1     | 843.2  | BERM    |
| 14         | - | 0. * |                 |  |  |  |  |  |  | B3 P2     | 696.2  | BERM    |
| 15         | - | 0. * |                 |  |  |  |  |  |  | B3 P3     | 458.0  | BERM    |
| 16         | - | 0. * |                 |  |  |  |  |  |  | B3 P4     | 869.0  | BERM    |
| 17         | - | 0. * |                 |  |  |  |  |  |  | B3 P5     | 483.0  | BERM    |
| 18         | - | 0. * |                 |  |  |  |  |  |  | B4 P1     | 843.2  | MASONRY |
| 19         | - | 0. * |                 |  |  |  |  |  |  | B4 P2     | 696.2  | MASONRY |
| 20         | - | 0. * |                 |  |  |  |  |  |  | B4 P3     | 458.0  | MASONRY |
| 21         | - | 0. * |                 |  |  |  |  |  |  | B4 P4     | 869.0  | MASONRY |
| 22         | - | 0. * |                 |  |  |  |  |  |  | B4 P5     | 483.0  | MASONRY |

|     | 0    | 1  | 2   | 3      | 4        | 5 | 6 | 7 |
|-----|------|----|-----|--------|----------|---|---|---|
| 1   |      |    |     |        |          |   |   |   |
| REC | REC  | ID | DNL | PEOPLE | LEQ(CAL) |   |   |   |
| 1   | R-1  |    | 67. | 500.   | 62.8     |   |   |   |
| 2   | R-2  |    | 67. | 500.   | 58.8     |   |   |   |
| 3   | R-3  |    | 67. | 500.   | 52.5     |   |   |   |
| 4   | R-4  |    | 67. | 500.   | 57.7     |   |   |   |
| 5   | R-5  |    | 67. | 500.   | 60.1     |   |   |   |
| 6   | R-6  |    | 67. | 500.   | 57.8     |   |   |   |
| 7   | R-7  |    | 67. | 500.   | 57.2     |   |   |   |
| 8   | R-8  |    | 67. | 500.   | 63.0     |   |   |   |
| 9   | R-9  |    | 67. | 500.   | 54.9     |   |   |   |
| 10  | R-10 |    | 67. | 500.   | 59.7     |   |   |   |
| 11  | R-11 |    | 67. | 500.   | 50.7     |   |   |   |
| 12  | R-12 |    | 67. | 500.   | 57.2     |   |   |   |
| 13  | R-13 |    | 67. | 500.   | 52.2     |   |   |   |
| 14  | R-14 |    | 67. | 500.   | 53.5     |   |   |   |
| 15  | R-15 |    | 67. | 500.   | 52.8     |   |   |   |
| 16  | R-16 |    | 67. | 500.   | 56.2     |   |   |   |
| 17  | R-17 |    | 67. | 500.   | 52.0     |   |   |   |
| 18  | R-18 |    | 67. | 500.   | 53.5     |   |   |   |
| 19  | R-19 |    | 67. | 500.   | 54.2     |   |   |   |
| 20  | R-20 |    | 67. | 500.   | 51.4     |   |   |   |

# MOFFSITE

Montecito Ranch First Floor Off Site Existing Plus Project MIT

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N, 4309. , 4740, 1436,

N, 4205. , 4547, 1432,

N, 4188. , 4350, 1430,

N, 4175. , 3006, 1415,

N, 4157. , 2237, 1412,

N, 4158. , 1370, 1405,

N, 4142. , 385, 1400,

L-Ash Street, 2

N, 11089. , 6896, 1619,

N, 11931. , 6894, 1575,

N, 12627. , 6895, 1558,

N, 13085. , 6894, 1556,

N, 13954. , 6891, 1552,

N, 14437. , 6891, 1551,

B-Road Edge 1, 1 , 1 , 0 , 0

4329. , 4740, 1436, 1436,

4225. , 4547, 1432, 1432,

4208. , 4350, 1430, 1430,

4195. , 3006, 1415, 1415,

4177. , 2237, 1412, 1412,

4178. , 1370, 1405, 1405,

4162. , 385, 1400, 1400,

B-Road Edge 2, 2 , 1 , 0 , 0

4289. , 4740, 1436, 1436,

4185. , 4547, 1432, 1432,

4168. , 4350, 1430, 1430,

4155. , 3006, 1415, 1415,

4137. , 2237, 1412, 1412,

4138. , 1370, 1405, 1405,

4122. , 385, 1400, 1400,

B-Road Edge 3, 3 , 1 , 0 , 0

11089. , 6916, 1619, 1619,

11931. , 6914, 1575, 1575,

12627. , 6915, 1558, 1558,

13085. , 6914, 1556, 1556,

13954. , 6911, 1552, 1552,

14437. , 6911, 1551, 1551,

B-Road Edge 4, 4 , 2 , 0 , 0

11089. , 6876, 1619, 1619,

11931. , 6874, 1575, 1575,

12627. , 6875, 1558, 1558,

13085. , 6874, 1556, 1556,

13954. , 6871, 1552, 1552,

14437. , 6871, 1551, 1551,

B-Barrier 1, 5 , 2 , 0 , 0

4220. , 4333, 1430, 1434,

4220. , 4256, 1430, 1434,

B-Barrier 8, 6 , 2 , 0 , 0

4123. , 2189, 1413, 1417,

4122. , 2090, 1413, 1417,

R, 1 , 67 , 500

4230, 4298, 1435. ,

R, 2 , 67 , 500

4227, 4059, 1430. ,

R, 3 , 67 , 500

4331, 2932, 1418. ,

R, 4 , 67 , 500

MOFFSITE

4233, 2847, 1418. ,  
R, 5 , 67 , 500  
4212, 2716, 1418. ,  
R, 6 , 67 , 500  
4219, 2645, 1418. ,  
R, 7 , 67 , 500  
4226, 2558, 1416. ,  
R, 8 , 67 , 500  
4114, 2138, 1418. ,  
R, 9 , 67 , 500  
4061, 1427, 1409. ,  
R, 10 , 67 , 500  
4202, 669, 1409. ,  
R, 11 , 67 , 500  
11304, 7064, 1627. ,  
R, 12 , 67 , 500  
11489, 6841, 1593. ,  
R, 13 , 67 , 500  
11647, 6970, 1585. ,  
R, 14 , 67 , 500  
11716, 6952, 1583. ,  
R, 15 , 67 , 500  
11852, 7004, 1566. ,  
R, 16 , 67 , 500  
11952, 6777, 1582. ,  
R, 17 , 67 , 500  
11994, 6963, 1562. ,  
R, 18 , 67 , 500  
12498, 6983, 1550. ,  
R, 19 , 67 , 500  
12859, 6739, 1565. ,  
R, 20 , 67 , 500  
12965, 7058, 1567. ,  
C, C

## SOUND32

SOUND32 - RELEASE 07/30/91

## TITLE:

Monteci to Ranch First Floor Off Site Existing Plus Project MIT

## BARRIER DATA

\*\*\*\*\*

| BAR<br>ELE | 0 | 1    | BARRIER HEIGHTS |   |   |   |   |   |  | BAR<br>ID | LENGTH | TYPE    |
|------------|---|------|-----------------|---|---|---|---|---|--|-----------|--------|---------|
| 1          | - | 0. * |                 |   |   |   |   |   |  | B1 P1     | 219.3  | BERM    |
| 2          | - | 0. * |                 |   |   |   |   |   |  | B1 P2     | 197.7  | BERM    |
| 3          | - | 0. * |                 |   |   |   |   |   |  | B1 P3     | 1344.1 | BERM    |
| 4          | - | 0. * |                 |   |   |   |   |   |  | B1 P4     | 769.2  | BERM    |
| 5          | - | 0. * |                 |   |   |   |   |   |  | B1 P5     | 867.0  | BERM    |
| 6          | - | 0. * |                 |   |   |   |   |   |  | B1 P6     | 985.1  | BERM    |
| 7          | - | 0. * |                 |   |   |   |   |   |  | B2 P1     | 219.3  | BERM    |
| 8          | - | 0. * |                 |   |   |   |   |   |  | B2 P2     | 197.7  | BERM    |
| 9          | - | 0. * |                 |   |   |   |   |   |  | B2 P3     | 1344.1 | BERM    |
| 10         | - | 0. * |                 |   |   |   |   |   |  | B2 P4     | 769.2  | BERM    |
| 11         | - | 0. * |                 |   |   |   |   |   |  | B2 P5     | 867.0  | BERM    |
| 12         | - | 0. * |                 |   |   |   |   |   |  | B2 P6     | 985.1  | BERM    |
| 13         | - | 0. * |                 |   |   |   |   |   |  | B3 P1     | 843.2  | BERM    |
| 14         | - | 0. * |                 |   |   |   |   |   |  | B3 P2     | 696.2  | BERM    |
| 15         | - | 0. * |                 |   |   |   |   |   |  | B3 P3     | 458.0  | BERM    |
| 16         | - | 0. * |                 |   |   |   |   |   |  | B3 P4     | 869.0  | BERM    |
| 17         | - | 0. * |                 |   |   |   |   |   |  | B3 P5     | 483.0  | BERM    |
| 18         | - | 0. * |                 |   |   |   |   |   |  | B4 P1     | 843.2  | MASONRY |
| 19         | - | 0. * |                 |   |   |   |   |   |  | B4 P2     | 696.2  | MASONRY |
| 20         | - | 0. * |                 |   |   |   |   |   |  | B4 P3     | 458.0  | MASONRY |
| 21         | - | 0. * |                 |   |   |   |   |   |  | B4 P4     | 869.0  | MASONRY |
| 22         | - | 0. * |                 |   |   |   |   |   |  | B4 P5     | 483.0  | MASONRY |
| 23         | - | 4. * |                 |   |   |   |   |   |  | B5 P1     | 77.0   | MASONRY |
| 24         | - | 4. * |                 |   |   |   |   |   |  | B6 P1     | 99.0   | MASONRY |
|            | 0 | 1    | 2               | 3 | 4 | 5 | 6 | 7 |  |           |        |         |

|    |      |     |    |     |        |          |
|----|------|-----|----|-----|--------|----------|
| 1  | REC  | REC | ID | DNL | PEOPLE | LEQ(CAL) |
| 1  | R-1  |     |    | 67. | 500.   | 59.0     |
| 2  | R-2  |     |    | 67. | 500.   | 58.8     |
| 3  | R-3  |     |    | 67. | 500.   | 52.5     |
| 4  | R-4  |     |    | 67. | 500.   | 57.7     |
| 5  | R-5  |     |    | 67. | 500.   | 60.1     |
| 6  | R-6  |     |    | 67. | 500.   | 57.8     |
| 7  | R-7  |     |    | 67. | 500.   | 57.2     |
| 8  | R-8  |     |    | 67. | 500.   | 58.7     |
| 9  | R-9  |     |    | 67. | 500.   | 54.9     |
| 10 | R-10 |     |    | 67. | 500.   | 59.7     |
| 11 | R-11 |     |    | 67. | 500.   | 50.7     |
| 12 | R-12 |     |    | 67. | 500.   | 57.2     |
| 13 | R-13 |     |    | 67. | 500.   | 52.2     |
| 14 | R-14 |     |    | 67. | 500.   | 53.5     |
| 15 | R-15 |     |    | 67. | 500.   | 52.8     |
| 16 | R-16 |     |    | 67. | 500.   | 56.2     |
| 17 | R-17 |     |    | 67. | 500.   | 52.0     |
| 18 | R-18 |     |    | 67. | 500.   | 53.5     |

|       |      |     |      |      |
|-------|------|-----|------|------|
| 19    | R-19 | 67. | 500. | 54.2 |
| 20    | R-20 | 67. | 500. | 51.4 |
| ----- |      |     |      |      |

SOUND32

# MOFFSITE2

Montecito Ranch Second Floor Off Site Existing Plus Project

T-Peak Hour Traffic Conditions, 1

297 , 40 , 13 , 40 , 3 , 40

T-Peak Hour Traffic Conditions, 2

266 , 40 , 11 , 40 , 3 , 40

L-Montecito Way, 1

N, 4309. , 4740, 1436,

N, 4205. , 4547, 1432,

N, 4188. , 4350, 1430,

N, 4175. , 3006, 1415,

N, 4157. , 2237, 1412,

N, 4158. , 1370, 1405,

N, 4142. , 385, 1400,

L-Ash Street, 2

N, 11089. , 6896, 1619,

N, 11931. , 6894, 1575,

N, 12627. , 6895, 1558,

N, 13085. , 6894, 1556,

N, 13954. , 6891, 1552,

N, 14437. , 6891, 1551,

B-Road Edge 1, 1 , 1 , 0 , 0

4329. , 4740, 1436, 1436,

4225. , 4547, 1432, 1432,

4208. , 4350, 1430, 1430,

4195. , 3006, 1415, 1415,

4177. , 2237, 1412, 1412,

4178. , 1370, 1405, 1405,

4162. , 385, 1400, 1400,

B-Road Edge 2, 2 , 1 , 0 , 0

4289. , 4740, 1436, 1436,

4185. , 4547, 1432, 1432,

4168. , 4350, 1430, 1430,

4155. , 3006, 1415, 1415,

4137. , 2237, 1412, 1412,

4138. , 1370, 1405, 1405,

4122. , 385, 1400, 1400,

B-Road Edge 3, 3 , 1 , 0 , 0

11089. , 6916, 1619, 1619,

11931. , 6914, 1575, 1575,

12627. , 6915, 1558, 1558,

13085. , 6914, 1556, 1556,

13954. , 6911, 1552, 1552,

14437. , 6911, 1551, 1551,

B-Road Edge 4, 4 , 2 , 0 , 0

11089. , 6876, 1619, 1619,

11931. , 6874, 1575, 1575,

12627. , 6875, 1558, 1558,

13085. , 6874, 1556, 1556,

13954. , 6871, 1552, 1552,

14437. , 6871, 1551, 1551,

R, 1 , 67 , 500

12859, 6739, 1575. ,

R, 2 , 67 , 500

12965, 7058, 1577. ,

C, C

## SOUND32

SOUND32 - RELEASE 07/30/91

TITLE:

Monteci to Ranch Second Floor Off Site Existing Plus Project

## BARRIER DATA

\*\*\*\*\*

| BAR<br>ELE | 0   | 1   | BARRIER HEIGHTS |     |        |          |   |   |  | BAR<br>ID | LENGTH | TYPE    |
|------------|-----|-----|-----------------|-----|--------|----------|---|---|--|-----------|--------|---------|
| 1          | -   | 0.* |                 |     |        |          |   |   |  | B1 P1     | 219.3  | BERM    |
| 2          | -   | 0.* |                 |     |        |          |   |   |  | B1 P2     | 197.7  | BERM    |
| 3          | -   | 0.* |                 |     |        |          |   |   |  | B1 P3     | 1344.1 | BERM    |
| 4          | -   | 0.* |                 |     |        |          |   |   |  | B1 P4     | 769.2  | BERM    |
| 5          | -   | 0.* |                 |     |        |          |   |   |  | B1 P5     | 867.0  | BERM    |
| 6          | -   | 0.* |                 |     |        |          |   |   |  | B1 P6     | 985.1  | BERM    |
| 7          | -   | 0.* |                 |     |        |          |   |   |  | B2 P1     | 219.3  | BERM    |
| 8          | -   | 0.* |                 |     |        |          |   |   |  | B2 P2     | 197.7  | BERM    |
| 9          | -   | 0.* |                 |     |        |          |   |   |  | B2 P3     | 1344.1 | BERM    |
| 10         | -   | 0.* |                 |     |        |          |   |   |  | B2 P4     | 769.2  | BERM    |
| 11         | -   | 0.* |                 |     |        |          |   |   |  | B2 P5     | 867.0  | BERM    |
| 12         | -   | 0.* |                 |     |        |          |   |   |  | B2 P6     | 985.1  | BERM    |
| 13         | -   | 0.* |                 |     |        |          |   |   |  | B3 P1     | 843.2  | BERM    |
| 14         | -   | 0.* |                 |     |        |          |   |   |  | B3 P2     | 696.2  | BERM    |
| 15         | -   | 0.* |                 |     |        |          |   |   |  | B3 P3     | 458.0  | BERM    |
| 16         | -   | 0.* |                 |     |        |          |   |   |  | B3 P4     | 869.0  | BERM    |
| 17         | -   | 0.* |                 |     |        |          |   |   |  | B3 P5     | 483.0  | BERM    |
| 18         | -   | 0.* |                 |     |        |          |   |   |  | B4 P1     | 843.2  | MASONRY |
| 19         | -   | 0.* |                 |     |        |          |   |   |  | B4 P2     | 696.2  | MASONRY |
| 20         | -   | 0.* |                 |     |        |          |   |   |  | B4 P3     | 458.0  | MASONRY |
| 21         | -   | 0.* |                 |     |        |          |   |   |  | B4 P4     | 869.0  | MASONRY |
| 22         | -   | 0.* |                 |     |        |          |   |   |  | B4 P5     | 483.0  | MASONRY |
| -----      |     |     |                 |     |        |          |   |   |  |           |        |         |
|            | 0   | 1   | 2               | 3   | 4      | 5        | 6 | 7 |  |           |        |         |
| 1          | REC | REC | ID              | DNL | PEOPLE | LEQ(CAL) |   |   |  |           |        |         |
| 1          | R-1 |     |                 | 67. | 500.   | 55.2     |   |   |  |           |        |         |
| 2          | R-2 |     |                 | 67. | 500.   | 53.2     |   |   |  |           |        |         |
| -----      |     |     |                 |     |        |          |   |   |  |           |        |         |

## **APPENDIX E**

### EXTERIOR ANALYSIS PREDICTION MODEL INPUTS AND CALCULATIONS FOR BUILDOUT SCENARIO

Montecito Ranch First Floor Unmitigated  
T-Peak Hour Traffic Conditions, 1

559, 40, 24, 40, 6, 40

L-Montecito Ranch Road, 1

N, 11579, 6897, 1590,

N, 10559, 6903, 1620,

N, 9833, 6887, 1630,

N, 9506, 6916, 1630,

N, 9105, 7007, 1620,

N, 8869, 7093, 1610,

N, 8646, 7194, 1600,

N, 8318, 7369, 1598,

N, 8025, 7517, 1595,

N, 7868, 7579, 1590,

N, 7583, 7664, 1600,

N, 7318, 7709, 1610,

N, 6618, 7702, 1621,

N, 5635, 7271, 1590,

N, 4735, 6764, 1530,

R, 1, 67, 500

10836, 6982, 1620, ,

R, 2, 67, 500

10357, 6979, 1616, ,

R, 3, 67, 500

9275, 7054, 1609, ,

R, 4, 67, 500

8442, 7434, 1610, ,

R, 5, 67, 500

7996, 7647, 1603, ,

R, 6, 67, 500

7622, 7758, 1610, ,

R, 7, 67, 500

7058, 7834, 1632, ,

R, 8, 67, 500

6577, 7771, 1627, ,

R, 9, 67, 500

6096, 7640, 1627, ,

R, 10, 67, 500

5792, 7537, 1636, ,

R, 11, 67, 500

6249, 8613, 1611, ,

R, 12, 67, 500

7798, 9106, 1565, ,

R, 13, 67, 500

8942, 7771, 1597, ,

R, 14, 67, 500

10612, 8537, 1592, ,

R, 15, 67, 500

11177, 9526, 1603, ,

C, C

SOUND32 - RELEASE 07/30/91

## TITLE:

Montecito Ranch First Floor Unmitigated

BASED ON FHWA-RD-108 AND  
CALIFORNIA REFERENCE ENERGY MEAN EMISSION LEVELS

| RECEIVER | LEQ  |
|----------|------|
| -----    |      |
| R-1      | 63.3 |
| R-2      | 63.4 |
| R-3      | 63.2 |
| R-4      | 61.8 |
| R-5      | 61.9 |
| R-6      | 62.2 |
| R-7      | 61.3 |
| R-8      | 63.1 |
| R-9      | 60.5 |
| R-10     | 59.6 |
| R-11     | 50.4 |
| R-12     | 48.2 |
| R-13     | 53.7 |
| R-14     | 47.3 |
| R-15     | 43.3 |

## Monteci to Ranch First Floor Mitigated

T-Peak Hour Traffic Conditions, 1

559 , 40 , 24 , 40 , 6 , 40

L-Monteci to Ranch Road, 1

N, 11579. , 6897, 1590,

N, 10559. , 6903, 1620,

N, 9833. , 6887, 1630,

N, 9506. , 6916, 1630,

N, 9105. , 7007, 1620,

N, 8869. , 7093, 1610,

N, 8646. , 7194, 1600,

N, 8318. , 7369, 1598,

N, 8025. , 7517, 1595,

N, 7868. , 7579, 1590,

N, 7583. , 7664, 1600,

N, 7318. , 7709, 1610,

N, 6618. , 7702, 1621,

N, 5635. , 7271, 1590,

N, 4735. , 6764, 1530,

B-Noi se Barri er 1, 1 , 2 , 0 , 0

11089. , 6971, 1620, 1626,

10688. , 6966, 1620, 1626,

10608. , 7099, 1620, 1626,

B-Noi se Barri er 2, 2 , 2 , 0 , 0

10506. , 7096, 1625, 1631,

10434. , 6968, 1625, 1631,

9746. , 6967, 1630, 1636,

9405. , 7007, 1630, 1636,

9062. , 7100, 1620, 1626,

9043. , 7240, 1620, 1626,

B-Noi se Barri er 3, 3 , 2 , 0 , 0

8949. , 7284, 1610, 1616,

8823. , 7198, 1610, 1616,

8374. , 7459, 1605, 1611,

7970. , 7641, 1598, 1604,

7540. , 7765, 1609, 1615,

7470. , 7886, 1609, 1615,

B-Noi se Barri er 4, 4 , 2 , 0 , 0

7313. , 7893, 1628, 1634,

7262. , 7820, 1628, 1634,

6862. , 7806, 1625, 1631,

6486. , 7736, 1622, 1628,

6371. , 7842, 1621, 1627,

B-Noi se Barri er 5, 5 , 2 , 0 , 0

6262. , 7804, 1621, 1627,

6227. , 7669, 1621, 1627,

6047. , 7610, 1622, 1628,

6022. , 7624, 1629, 1635,

5760. , 7507, 1631, 1637,

5713. , 7559, 1631, 1637,

R, 1 , 67 , 500

10836, 6982, 1620. ,

R, 2 , 67 , 500

10357, 6979, 1616. ,

R, 3 , 67 , 500

9275, 7054, 1609. ,

R, 4 , 67 , 500

8442, 7434, 1610. ,

R, 5 , 67 , 500

7996, 7647, 1603. ,

R, 6 , 67 , 500

7622, 7758, 1610. ,

R, 7 , 67 , 500

4568M1

7058, 7834, 1632. ,  
R, 8 , 67 , 500  
6577, 7772, 1627. ,  
R, 9 , 67 , 500  
6096, 7640, 1627. ,  
R, 10 , 67 , 500  
5792, 7537, 1636. ,  
R, 11 , 67 , 500  
6249, 8613, 1611. ,  
R, 12 , 67 , 500  
7798, 9106, 1565. ,  
R, 13 , 67 , 500  
8942, 7771, 1597. ,  
R, 14 , 67 , 500  
10612, 8537, 1592. ,  
R, 15 , 67 , 500  
11177, 9526, 1603. ,  
C, C

SOUND32 - RELEASE 07/30/91

TITLE:

Monteci to Ranch First Floor Mitigated

## BARRIER DATA

\*\*\*\*\*

| BAR<br>ELE | 0 | 1    | BARRIER HEIGHTS |  |  |  |  |  |  | BAR<br>ID | LENGTH | TYPE    |
|------------|---|------|-----------------|--|--|--|--|--|--|-----------|--------|---------|
| 1          | - | 6. * |                 |  |  |  |  |  |  | B1 P1     | 401. 0 | MASONRY |
| 2          | - | 6. * |                 |  |  |  |  |  |  | B1 P2     | 155. 2 | MASONRY |
| 3          | - | 6. * |                 |  |  |  |  |  |  | B2 P1     | 146. 9 | MASONRY |
| 4          | - | 6. * |                 |  |  |  |  |  |  | B2 P2     | 688. 0 | MASONRY |
| 5          | - | 6. * |                 |  |  |  |  |  |  | B2 P3     | 343. 3 | MASONRY |
| 6          | - | 6. * |                 |  |  |  |  |  |  | B2 P4     | 355. 5 | MASONRY |
| 7          | - | 6. * |                 |  |  |  |  |  |  | B2 P5     | 141. 3 | MASONRY |
| 8          | - | 6. * |                 |  |  |  |  |  |  | B3 P1     | 152. 6 | MASONRY |
| 9          | - | 6. * |                 |  |  |  |  |  |  | B3 P2     | 519. 4 | MASONRY |
| 10         | - | 6. * |                 |  |  |  |  |  |  | B3 P3     | 443. 2 | MASONRY |
| 11         | - | 6. * |                 |  |  |  |  |  |  | B3 P4     | 447. 7 | MASONRY |
| 12         | - | 6. * |                 |  |  |  |  |  |  | B3 P5     | 139. 8 | MASONRY |
| 13         | - | 6. * |                 |  |  |  |  |  |  | B4 P1     | 89. 1  | MASONRY |
| 14         | - | 6. * |                 |  |  |  |  |  |  | B4 P2     | 400. 3 | MASONRY |
| 15         | - | 6. * |                 |  |  |  |  |  |  | B4 P3     | 382. 5 | MASONRY |
| 16         | - | 6. * |                 |  |  |  |  |  |  | B4 P4     | 156. 4 | MASONRY |
| 17         | - | 6. * |                 |  |  |  |  |  |  | B5 P1     | 139. 5 | MASONRY |
| 18         | - | 6. * |                 |  |  |  |  |  |  | B5 P2     | 189. 4 | MASONRY |
| 19         | - | 6. * |                 |  |  |  |  |  |  | B5 P3     | 29. 5  | MASONRY |
| 20         | - | 6. * |                 |  |  |  |  |  |  | B5 P4     | 286. 9 | MASONRY |
| 21         | - | 6. * |                 |  |  |  |  |  |  | B5 P5     | 70. 1  | MASONRY |

|     | 0      | 1   | 2      | 3        | 4 | 5 | 6 | 7 |
|-----|--------|-----|--------|----------|---|---|---|---|
| 1   |        |     |        |          |   |   |   |   |
| REC | REC ID | DNL | PEOPLE | LEQ(CAL) |   |   |   |   |
| 1   | R-1    | 67. | 500.   | 50. 4    |   |   |   |   |
| 2   | R-2    | 67. | 500.   | 45. 6    |   |   |   |   |
| 3   | R-3    | 67. | 500.   | 44. 9    |   |   |   |   |
| 4   | R-4    | 67. | 500.   | 54. 1    |   |   |   |   |
| 5   | R-5    | 67. | 500.   | 55. 1    |   |   |   |   |
| 6   | R-6    | 67. | 500.   | 52. 9    |   |   |   |   |
| 7   | R-7    | 67. | 500.   | 54. 1    |   |   |   |   |
| 8   | R-8    | 67. | 500.   | 55. 4    |   |   |   |   |
| 9   | R-9    | 67. | 500.   | 53. 8    |   |   |   |   |
| 10  | R-10   | 67. | 500.   | 51. 1    |   |   |   |   |
| 11  | R-11   | 67. | 500.   | 44. 6    |   |   |   |   |
| 12  | R-12   | 67. | 500.   | 39. 8    |   |   |   |   |
| 13  | R-13   | 67. | 500.   | 46. 2    |   |   |   |   |
| 14  | R-14   | 67. | 500.   | 41. 8    |   |   |   |   |
| 15  | R-15   | 67. | 500.   | 38. 0    |   |   |   |   |

## Montecito Ranch Second Floor w/ Barriers

T-Peak Hour Traffic Conditions, 1

559 , 40 , 24 , 40 , 6 , 40

L-Montecito Ranch Road, 1

N, 11579. , 6897, 1590,

N, 10559. , 6903, 1620,

N, 9833. , 6887, 1630,

N, 9506. , 6916, 1630,

N, 9105. , 7007, 1620,

N, 8869. , 7093, 1610,

N, 8646. , 7194, 1600,

N, 8318. , 7369, 1598,

N, 8025. , 7517, 1595,

N, 7868. , 7579, 1590,

N, 7583. , 7664, 1600,

N, 7318. , 7709, 1610,

N, 6618. , 7702, 1621,

N, 5635. , 7271, 1590,

N, 4735. , 6764, 1530,

B-Noise Barrier 1, 1 , 2 , 0 , 0

11089. , 6971, 1620, 1626,

10688. , 6966, 1620, 1626,

10608. , 7099, 1620, 1626,

B-Noise Barrier 2, 2 , 2 , 0 , 0

10506. , 7096, 1625, 1631,

10434. , 6968, 1625, 1631,

9746. , 6967, 1630, 1636,

9405. , 7007, 1630, 1636,

9062. , 7100, 1620, 1626,

9043. , 7240, 1620, 1626,

B-Noise Barrier 3, 3 , 2 , 0 , 0

8949. , 7284, 1610, 1616,

8823. , 7198, 1610, 1616,

8374. , 7459, 1605, 1611,

7970. , 7641, 1598, 1604,

7540. , 7765, 1609, 1615,

7470. , 7886, 1609, 1615,

B-Noise Barrier 4, 4 , 2 , 0 , 0

7313. , 7893, 1628, 1634,

7262. , 7820, 1628, 1634,

6862. , 7806, 1625, 1631,

6486. , 7736, 1622, 1628,

6371. , 7842, 1621, 1627,

B-Noise Barrier 5, 5 , 2 , 0 , 0

6262. , 7804, 1621, 1627,

6227. , 7669, 1621, 1627,

6047. , 7610, 1622, 1628,

6022. , 7624, 1629, 1635,

5760. , 7507, 1631, 1637,

5713. , 7559, 1631, 1637,

R, 1 , 67 , 500

10836, 6982, 1630. ,

R, 2 , 67 , 500

10357, 6979, 1626. ,

R, 3 , 67 , 500

9275, 7054, 1619. ,

R, 4 , 67 , 500

8442, 7434, 1620. ,

R, 5 , 67 , 500

7996, 7647, 1613. ,

R, 6 , 67 , 500

7622, 7758, 1620. ,

R, 7 , 67 , 500

4568U2

7058, 7834, 1642. ,  
R, 8 , 67 , 500  
6577, 7771, 1637. ,  
R, 9 , 67 , 500  
6096, 7640, 1637. ,  
R, 10 , 67 , 500  
5792, 7537, 1646. ,  
R, 11 , 67 , 500  
6249, 8613, 1621. ,  
R, 12 , 67 , 500  
7798, 9106, 1575. ,  
R, 13 , 67 , 500  
8942, 7771, 1607. ,  
R, 14 , 67 , 500  
10612, 8537, 1602. ,  
R, 15 , 67 , 500  
11177, 9526, 1613. ,  
C, C

SOUND32 - RELEASE 07/30/91

## TITLE:

Monteci to Ranch Second Floor w/ Barriers

## BARRIER DATA

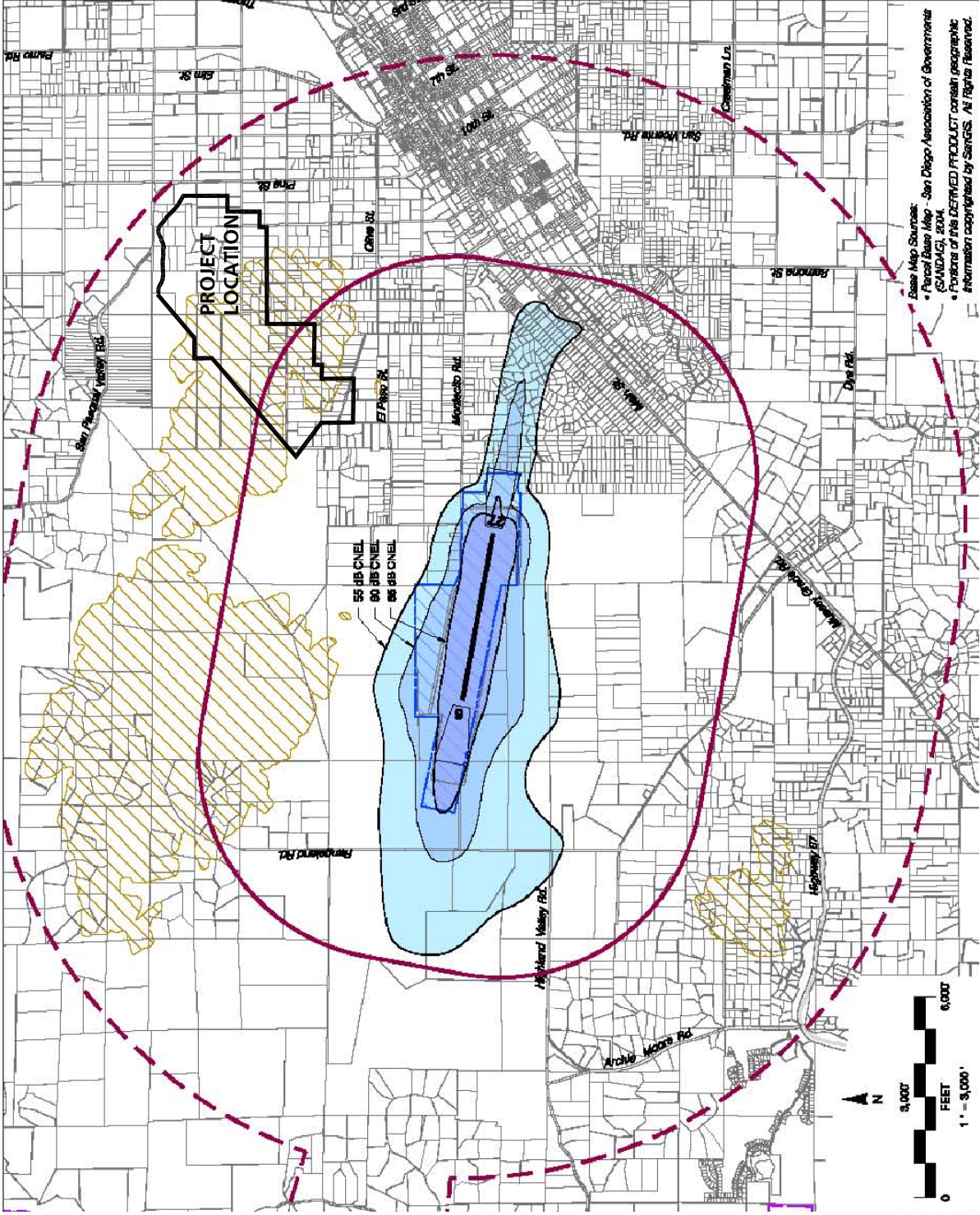
\*\*\*\*\*

| BAR<br>ELE | 0 | 1    | BARRIER HEIGHTS |  |  |  |  |  |  | BAR<br>ID | LENGTH | TYPE    |
|------------|---|------|-----------------|--|--|--|--|--|--|-----------|--------|---------|
| 1          | - | 6. * |                 |  |  |  |  |  |  | B1 P1     | 401. 0 | MASONRY |
| 2          | - | 6. * |                 |  |  |  |  |  |  | B1 P2     | 155. 2 | MASONRY |
| 3          | - | 6. * |                 |  |  |  |  |  |  | B2 P1     | 146. 9 | MASONRY |
| 4          | - | 6. * |                 |  |  |  |  |  |  | B2 P2     | 688. 0 | MASONRY |
| 5          | - | 6. * |                 |  |  |  |  |  |  | B2 P3     | 343. 3 | MASONRY |
| 6          | - | 6. * |                 |  |  |  |  |  |  | B2 P4     | 355. 5 | MASONRY |
| 7          | - | 6. * |                 |  |  |  |  |  |  | B2 P5     | 141. 3 | MASONRY |
| 8          | - | 6. * |                 |  |  |  |  |  |  | B3 P1     | 152. 6 | MASONRY |
| 9          | - | 6. * |                 |  |  |  |  |  |  | B3 P2     | 519. 4 | MASONRY |
| 10         | - | 6. * |                 |  |  |  |  |  |  | B3 P3     | 443. 2 | MASONRY |
| 11         | - | 6. * |                 |  |  |  |  |  |  | B3 P4     | 447. 7 | MASONRY |
| 12         | - | 6. * |                 |  |  |  |  |  |  | B3 P5     | 139. 8 | MASONRY |
| 13         | - | 6. * |                 |  |  |  |  |  |  | B4 P1     | 89. 1  | MASONRY |
| 14         | - | 6. * |                 |  |  |  |  |  |  | B4 P2     | 400. 3 | MASONRY |
| 15         | - | 6. * |                 |  |  |  |  |  |  | B4 P3     | 382. 5 | MASONRY |
| 16         | - | 6. * |                 |  |  |  |  |  |  | B4 P4     | 156. 4 | MASONRY |
| 17         | - | 6. * |                 |  |  |  |  |  |  | B5 P1     | 139. 5 | MASONRY |
| 18         | - | 6. * |                 |  |  |  |  |  |  | B5 P2     | 189. 4 | MASONRY |
| 19         | - | 6. * |                 |  |  |  |  |  |  | B5 P3     | 29. 5  | MASONRY |
| 20         | - | 6. * |                 |  |  |  |  |  |  | B5 P4     | 286. 9 | MASONRY |
| 21         | - | 6. * |                 |  |  |  |  |  |  | B5 P5     | 70. 1  | MASONRY |

|    | 0    | 1   | 2  | 3   | 4      | 5        | 6 | 7 |
|----|------|-----|----|-----|--------|----------|---|---|
| 1  | REC  | REC | ID | DNL | PEOPLE | LEQ(CAL) |   |   |
| 1  | R-1  |     |    | 67. | 500.   | 59. 4    |   |   |
| 2  | R-2  |     |    | 67. | 500.   | 51. 2    |   |   |
| 3  | R-3  |     |    | 67. | 500.   | 47. 1    |   |   |
| 4  | R-4  |     |    | 67. | 500.   | 61. 6    |   |   |
| 5  | R-5  |     |    | 67. | 500.   | 61. 8    |   |   |
| 6  | R-6  |     |    | 67. | 500.   | 62. 1    |   |   |
| 7  | R-7  |     |    | 67. | 500.   | 61. 1    |   |   |
| 8  | R-8  |     |    | 67. | 500.   | 63. 0    |   |   |
| 9  | R-9  |     |    | 67. | 500.   | 60. 4    |   |   |
| 10 | R-10 |     |    | 67. | 500.   | 59. 5    |   |   |
| 11 | R-11 |     |    | 67. | 500.   | 44. 8    |   |   |
| 12 | R-12 |     |    | 67. | 500.   | 40. 0    |   |   |
| 13 | R-13 |     |    | 67. | 500.   | 46. 7    |   |   |
| 14 | R-14 |     |    | 67. | 500.   | 41. 9    |   |   |
| 15 | R-15 |     |    | 67. | 500.   | 38. 0    |   |   |

## **APPENDIX F**

### RAMONA AIRPORT NOISE CONTOURS



# Legend

- Boundary Lines**
- Airport Property Line
  - Parcel Line
- Noise Impact Zones\***
- 55-60 dB CNEL
  - 60-65 dB CNEL
  - 65+ dB CNEL
- Airport Influence Area**
- Primary
  - Secondary
- Future Average Annual Day (640 Operations)**

## Notes

- \* Source: Harris Miller Miller & Hanson, Inc. (November 2004).
- See Table RMO-1 for criteria applicable within each zone.



AIRPORT LAND USE COMMISSION  
SAN DIEGO COUNTY

## Ramona Airport Land Use Compatibility Plan (August 2005 Draft)

Map RMO-1

## Compatibility Policy Map: Noise

Base Map Sources:  
 • Parcel Base Map - San Diego Association of Governments (SANDAG), 2004.  
 • Portions of this DERIVED PRODUCT contain geographic information copyrighted by SANDAG. All Rights Reserved.



## **APPENDIX G**

### FRESNEL BARRIER MODEL OUTPUT

1) Elevated Point Source

Source to Receiver Horizontal Distance (ft) = 175.00

Source to Barrier Horizontal Distance (ft) = 150.00

Barrier to Receiver Horizontal Distance (ft) = 25.00

Source Height (ft) = 8.00

Receiver Height (ft) = 5.00

Barrier Height (ft) = 8.00

Distance Source to Receptor (ft)  $d = 175.03$

Distance Source to Barrier top (ft)  $d_1 = 150.00$

Distance Barrier top to Receiver (ft)  $d_2 = 25.18$

Frequency (Hz) = 8000 Attenuation (db) = 16.3 Fresnel N = 2.181

Frequency (Hz) = 4000 Attenuation (db) = 13.7 Fresnel N = 1.091

Frequency (Hz) = 2000 Attenuation (db) = 11.4 Fresnel N = 0.545

Frequency (Hz) = 1000 Attenuation (db) = 9.7 Fresnel N = 0.273

**Frequency (Hz) = 500 Attenuation (db) = 8.2 Fresnel N = 0.136**

**Frequency (Hz) = 250 Attenuation (db) = 7.1 Fresnel N = 0.068**

Frequency (Hz) = 125 Attenuation (db) = 6.0 Fresnel N = 0.034

Frequency (Hz) = 63 Attenuation (db) = 5.2 Fresnel N = 0.017

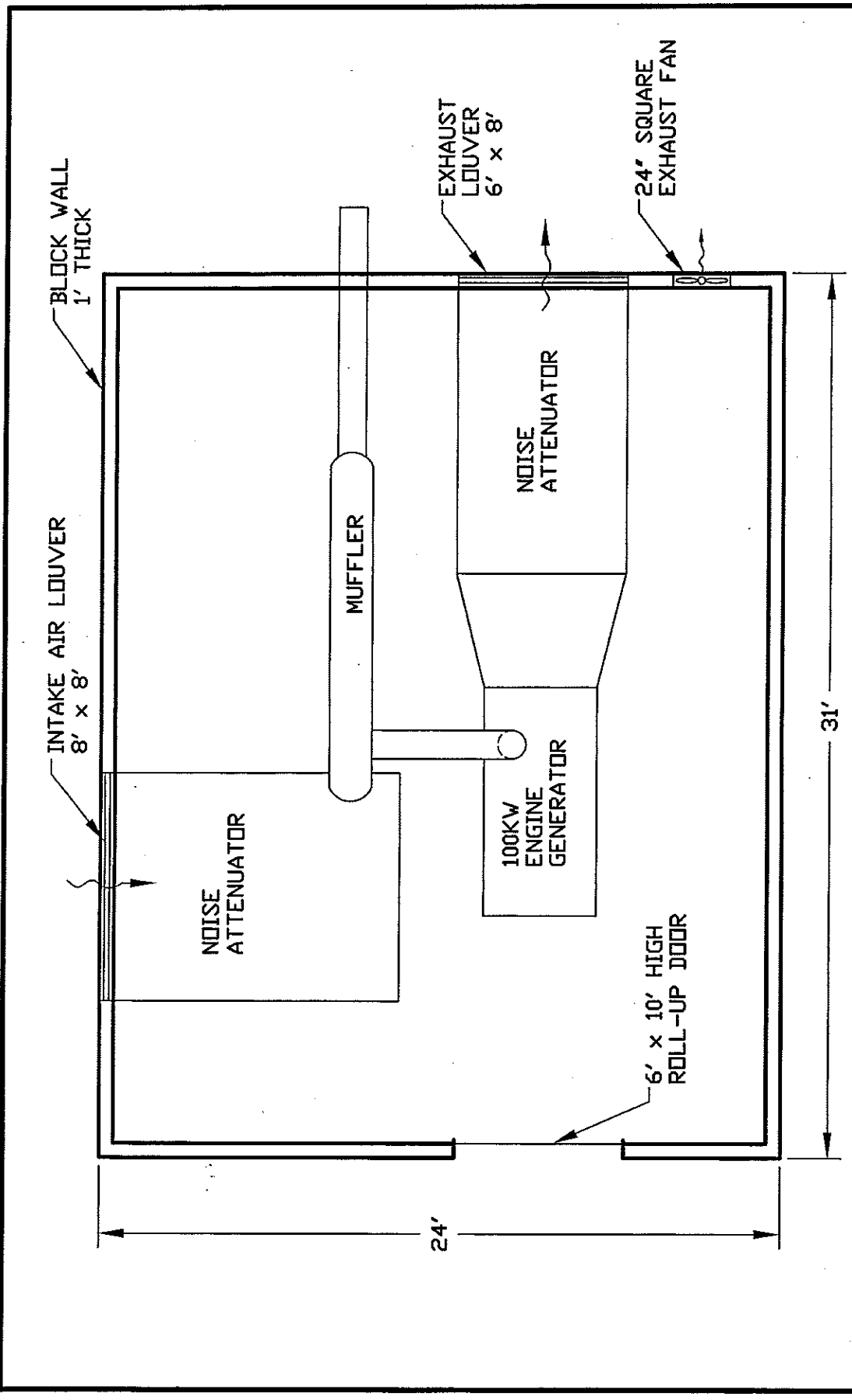
## **APPENDIX H**

### **WASTEWATER RECLAMATION FACILITY EQUIPMENT INFORMATION AND SOUND DATA**

**Table A3.1**

Wastewater Treatment Plant Preliminary Equipment and Noise Control Measures  
(Based on similar facility)

| Facility Component                         | Primary Equipment             | Manufacturer/Model            | Power  | Number of Units | Noise Control  |
|--|-------------------------------|-------------------------------|--------|-----------------|--|
| Operations Building                        | Emergency Generator           | Generac                       | 350 kW | 1               | Building, sound absorbing material on walls, 12" acoustical louvers, muffler |
|  | Air Compressor                | Quincy                        | 15 HP  | 2               | Building   |
|  | Plant Sewer Pump              | Pumpex                        | 4 HP   | 4               | in Vault   |
|  | Hydropneumatic Pump           | Aurora 344ABF                 | 10 HP  | 2               | None   |
|  | Exhaust Fan                   | Harrington HPCA 3000          | 50 HP  | 2               | Building, standard louvers   |
|  | Odor Control Room Exhaust Fan | Lauren Cook 24ED604D17        | 3/4 HP | 1               | Building   |
| Headworks, Effluent/Emergency Storage Area | Basin Pump                    | Pumpex K153CD5245             | 10 HP  | 4               | in Vault   |
|  | Short-term Basin Pump         | Barnes SE Series              | 1/2 HP | 1               | in Vault   |
|  | Auger Monster                 | JWC Env. 2400 Series          | 2 HP   | 2               | Building, standard louvers   |
|  | Blower                        | Kaeser Omega DB165            | 10 HP  | 1               | Building, sound absorbing material on walls, standard louver                 |
| Process Area, Sludge/Dewatering Building   | Exhaust Fan                   | Harrington HPIA 2225          | 2 HP   | 2               | Building, sound absorbing material on walls                                  |
|  | Sludge Pump                   | Cornell 3NLT53-4              | 3 HP   | 2               | Building   |
|  | Treatment Plant Blower        | Kaeser Omega 61               | 25 HP  | 3               | Separate room in building, sound absorbing material on walls                 |
|  | Centrifuge                    | Alfa Laval DS-401             | 75 HP  | 1               | Building, sound absorbing material on walls                                  |
|  | Inclined Sludge Conveyor      | American Bulk Conveying U-215 | 2 HP   | 1               | Building, sound absorbing material on walls                                  |
|  | Horizontal Conveyor           | American Bulk Conveying U-215 | 2 HP   | 1               | Building, sound absorbing material on walls                                  |
| Effluent Pump Station                      | Backdrive Motor               | Alfa Laval DS-401             | 15 HP  | 1               | Building, sound absorbing material on walls                                  |
|  | Effluent Pump                 | Paco 495-13                   | 15 HP  | 2               | Building, standard louvers   |
|  | Plant Water Pump              | Pumpex K100F-CB5124           | 3 HP   | 1               | Building, standard louvers   |
|  | Water Champ                   | US Filter SWC2F               | 2 HP   | 2               | in Vault   |
|  | Irrigation Pump               | Grundfos B45000055            | 5 HP   | 1               | Metal enclosure  |
|  | Floco Mixer Pump              | Sharpe Mixers 7.5N22-52       | 3/4 HP | 2               | None   |



HARMONY GROVE PUMP  
STATION  
GENERATOR BUILDING

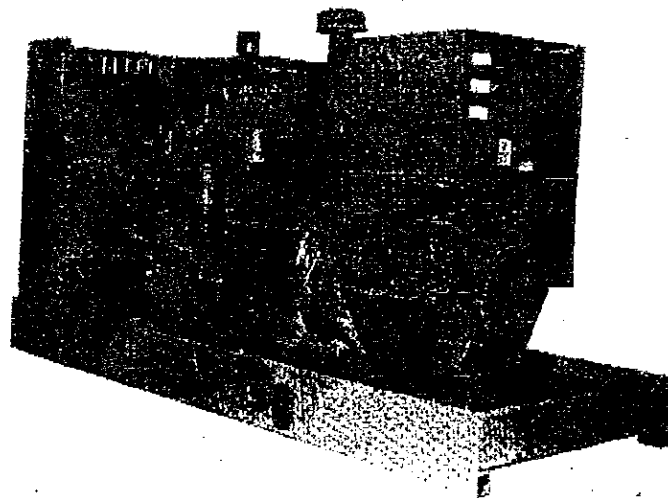
ROOF: 6" THICK CONCRETE SLAB.



**Onan**

Pump  
Station

# 100 DGDB 60 Hz 85 DGDB 50 Hz Diesel-Fueled Generator Set



|       | STANDBY PRIME |         |
|-------|---------------|---------|
| 60 Hz | 100 kW        | 90 kW   |
|       | 125 kVA       | 113 kVA |
| 50 Hz | 85 kW         | 77 kW   |
|       | 106 kVA       | 96 kVA  |

**COPY**

## Generator Set Features

- Single-source design, manufacturing and testing of all set components and accessories by Onan Corporation.
- Accepts 100% of nameplate kW rating in one step, in compliance with NFPA 110, Paragraph 5-13.2.6.
- Engine torque-matched excitation system provides quick recovery from transient speed dips.
- Low reactance generator design offers low waveform distortion with non-linear loads and provides excellent motor starting capabilities.

## Standard Equipment

### ENGINE

Cummins 4-cycle diesel engine.

### ALTERNATOR

Brushless Onan AC alternator provides broad range reconfigurable output. Designed for service in severe environments.

### CONTROL PANEL

Vibration isolated control with analog instrumentation.

### VOLTAGE REGULATOR

Electronic voltage regulator provides precise regulation and underfrequency compensation.

### COOLING SYSTEM

High ambient 122° F (50° C) system.

### SKID BASE

Supports the alternator and engine. Battery rack and cooling system mount to the skid base. Integral vibration isolation.

## Generator Set Testing



The Prototype Test Support (PTS) program is our commitment to verifying the integrity of our designs and products.

Before the generator sets are put into production, prototype models are subjected to demanding tests with typical/atypical loads and transients anticipated in service.

Production models earn the PTS seal only after meeting the performance criteria established by the program.

## Single-Source Warranty

All generator set components and systems are covered by a limited one-year warranty. Optional two- and five-year extended programs are available.



Standard Models are CSA certified.



#### Sound Pressure Levels @ 7 meters dB(A)

| Configuration                     |                  | Position (Note 1) |      |      |      |      |      |      |      | 8 Position Average |
|-----------------------------------|------------------|-------------------|------|------|------|------|------|------|------|--------------------|
|                                   |                  | 1                 | 2    | 3    | 4    | 5    | 6    | 7    | 8    |                    |
| Standard - Unhoused (Note 3)      | Infinite Exhaust | 82.1              | 86.4 | 85.5 | 85.4 | 82.0 | 85.3 | 84.7 | 85.1 | 84.6               |
| F182 - Weather (Note 3)           | Infinite Exhaust | 84.1              | 86.8 | 85.2 | 85.3 | 79.5 | 83.8 | 84.8 | 85.8 | 84.4               |
| F182 - Weather                    | Mounted Muffler  | 85.3              | 87.9 | 85.9 | 85.6 | 80.8 | 85.3 | 86.1 | 87.5 | 85.6               |
| F172 - Quiet Site II First Stage  | Mounted Muffler  | 85.2              | 83.1 | 74.6 | 72.8 | 68.8 | 70.7 | 73.5 | 83.9 | 76.6               |
| F173 - Quiet Site II Second Stage | Mounted Muffler  | 67.8              | 71.1 | 71.9 | 71.6 | 67.3 | 68.8 | 68.2 | 70.9 | 69.6               |

**Note:**

1. Position 1 faces the engine front at 23 feet (7 m) from the center of the generator set. The positions proceed around the generator set in a counter-clockwise direction in 45° increments.
2. Data based on full rated load with standard radiator-fan package.
3. Sound data for generator set with infinite exhaust do not include exhaust noise.
4. Sound pressure levels per ANSI S1.13-1971 as applicable.
5. Reference sound pressure is 20 µPa.
6. Sound pressure levels are subject to instrumentation, measurement, installation and generator set variability.

#### Sound Power Levels dB(A)

| Configuration                     |                  | Octave Band Center Frequency (Hz) |      |      |       |       |       |       |      | Sound Power Level |
|-----------------------------------|------------------|-----------------------------------|------|------|-------|-------|-------|-------|------|-------------------|
|                                   |                  | 63                                | 125  | 250  | 500   | 1000  | 2000  | 4000  | 8000 |                   |
| Standard - Unhoused (Note 3)      | Infinite Exhaust | 71.2                              | 85.3 | 96.4 | 99.9  | 105.1 | 105.0 | 101.5 | 96.5 | 109.9             |
| F182 - Weather                    | Mounted Muffler  | 87.7                              | 99.5 | 99.7 | 103.9 | 106.9 | 106.7 | 102.3 | 97.9 | 112.1             |
| F172 - Quiet Site II First Stage  | Mounted Muffler  | 76.5                              | 90.7 | 93.5 | 99.8  | 102.6 | 102.8 | 99.0  | 91.5 | 107.8             |
| F173 - Quiet Site II Second Stage | Mounted Muffler  | 75.1                              | 90.4 | 89.8 | 90.2  | 92.0  | 90.3  | 87.3  | 87.3 | 98.2              |

**Note:**

1. Data based on full rated load with standard radiator-fan package.
2. Sound power per ANSI S12.34-1988 and ISO 3744 as applicable.
3. Sound data for generator set with infinite exhaust do not include exhaust noise.
4. Reference sound power is  $1\text{pW}=1 \times 10^{-12}$  W.
5. Sound power levels are subject to instrumentation, measurement, installation and generator set variability.

## **APPENDIX I**

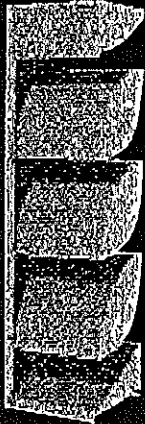
### ACOUSTICAL LOUVERS SOUND DATA

## Acoustic Louvers

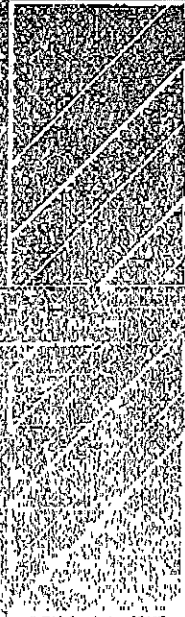
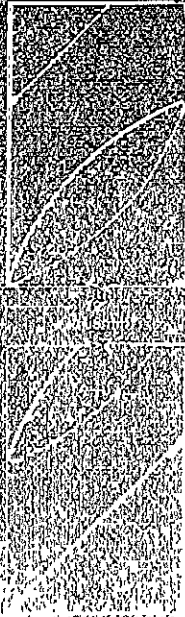
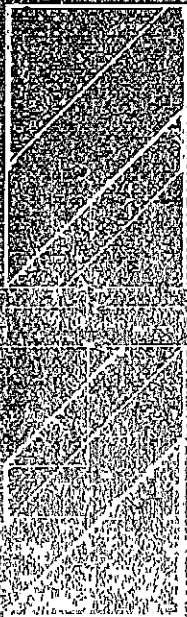
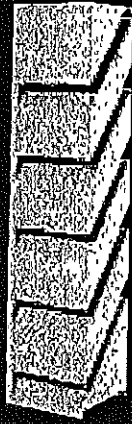
T9112



T9212



T9912



| Louver Type:   | T9112   | T9212   | T9912  |
|--|---|---|--|
| Material:  | Aluminum Alloy 5005-H34   | Aluminum Alloy 5005-H34   | Aluminum Alloy 5005-H34  |
| Stationary Blade:  | 0.081" (2.06mm)   | 0.081" (2.06mm)   | 0.081" (2.06mm)  |
| Frame:   | 0.081" (2.06mm)   | 0.081" (2.06mm)   | 0.081" (2.06mm)  |
| Acoustic Material:   | Fiberglass  | Fiberglass  | Fiberglass   |
| Louver Depth:  | 12" (304.8mm)   | 12" (304.8mm)   | 12" (304.8mm)  |
| Blade Angle:   | 45°   | 45°   | 45°  |
| Test Standard:   | AMCA Standard 500-L-99  | AMCA Standard 500-L-99  | AMCA Standard 500-L-99   |
| Free Area - 4' x 4' Unit:  | 4.07 sq. ft. (0.378 sq m)   | 4.09 sq. ft. (0.379 sq m)   | 2.99 sq. ft. (0.278 sq m)  |
| Percent Free Area:   | 25%   | 26%   | 19%  |
| Beginning Point of Water Penetration - 0.01 oz./sq. ft. Free Area: | 1,046 FPM (319 m/min)<br>4,257 CFM (120 m³/min)<br>0.13" H <sub>2</sub> O (0.032 kPa) | 1,116 FPM (340 m/min)<br>4,564 CFM (129 m³/min)<br>0.09" H <sub>2</sub> O (0.022 kPa) | 1,171 FPM (357 m/min)<br>3,501 CFM (99 m³/min)<br>0.15" H <sub>2</sub> O (0.037 kPa) |

## AIROLITE®

### Acoustic Louvers

Acoustic performance ratings are determined by Riverbank Acoustical Laboratories, Geneva, IL, with all facilities and procedures in explicit conformity with ASTM Designations E90-97, "Recommended Practice for Laboratory Measurement of Airborne Sound Transmission Loss of Building Partitions", and E413-87, "Standard Classification for Determination of Sound Transmission Class".

#### Free-Field Noise Reduction in Decibels

| Louver Type | Depth         | Octave Bands Center Frequency HZ |     |     |     |       |       |       |       |
|-------------|---------------|----------------------------------|-----|-----|-----|-------|-------|-------|-------|
|             |               | 63                               | 125 | 250 | 500 | 1,000 | 2,000 | 4,000 | 8,000 |
| T/CB9106    | 6" (152.4mm)  | 12                               | 9   | 10  | 14  | 23    | 26    | 24    | 23    |
| T/CB9206    | 6" (152.4mm)  | 12                               | 9   | 10  | 13  | 18    | 21    | 20    | 21    |
| T/CB9109    | 8" (203.2mm)  | 13                               | 10  | 11  | 17  | 25    | 26    | 23    | 24    |
| T/CB9208    | 8" (203.2mm)  | 15                               | 11  | 10  | 14  | 21    | 20    | 19    | 21    |
| T/CB9112    | 12" (304.8mm) | 14                               | 12  | 15  | 20  | 22    | 20    | 20    | 21    |
| T/CB9212    | 12" (304.8mm) | 13                               | 10  | 13  | 15  | 16    | 16    | 17    | 20    |
| T/CB9912    | 12" (304.8mm) | 16                               | 15  | 20  | 26  | 25    | 22    | 22    | 27    |

#### Recommended Specification:

Furnish and install Airfoil Blade Acoustic Louver Type T9212 as designed and manufactured by The AIROLITE Company, Marletta, Ohio USA. Louvers shall be constructed entirely of aluminum, alloy 5005-H34. Airfoil blades shall be minimum 0.081" (2.06mm) wall thickness and filled with sound absorbent fiberglass. Frames shall be minimum 0.081" (2.06mm) wall thickness. Louver assemblies shall be 12" (304.8mm) deep with 45 degree stationary blades. Each louver shall be fitted with 1/2" (12.7mm) mesh x 0.063" (1.60mm) diameter aluminum bird screen in non-removable U-shaped frames for permanently securing screen mesh.

Blades shall be joined to each jamb frame and vertical stiffening member with four fillet welds each 1" (25.4mm) long produced with the Pulsed Gas Metal Arc Welding process (GMAW/MIG) with a minimum 0.125" (3.18mm) throat. Frames shall be joined at each corner with full-length GMAW fillet welds with a minimum 0.125" (3.18mm) throat. Manufacturer shall submit theoretical calculations prepared by a professional engineer specializing in the application of welding technology demonstrating that each weld will withstand minimum 526 pounds of force in shear.

Louvers shall be factory primed and FINISHED-AFTER-ASSEMBLY with a Kynar 500® (PVF<sub>2</sub>) resin coating in a color selected from the manufacturer's standard color chart. Primer and Kynar® resin coating shall be oven baked at 450°F in accordance with the coating manufacturer's instructions.

Manufacturer shall submit acoustical performance data on a 4' x 4' (1.22 m x 1.22 m) unit derived by an independent laboratory in accordance with ASTM E90-97 demonstrating that the louver conforms to the following:

| Mid Frequency Hertz                   | 63 | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
|---------------------------------------|----|-----|-----|-----|------|------|------|------|
| Free-Field Noise Reduction - Decibels | 11 | 10  | 11  | 15  | 16   | 16   | 17   | 20   |

Louvers shall bear Air Movement and Control Association (AMCA) Certified Ratings Seals for air performance and water penetration ratings. Manufacturer shall submit Air Movement & Control Association (AMCA) laboratory test report on a 4' x 4' (1.22 m x 1.22 m) unit demonstrating that it provides a minimum of 4.15 square feet (0.385 sq m) of free area and shall intake 1,112 FPM (339 m/min) free area velocity at a static pressure drop not exceeding 0.09" H<sub>2</sub>O (0.022 kPa) per AMCA Standard 500-L-99. Water penetration shall not exceed 0.01 ounces per square foot of free area at a velocity of 1,112 FPM (339 m/min) when tested for 15 minutes per AMCA Standard 500-L-99.